EVALUATION REPORT FOR PERMIT TO CONSTRUCT/OPERATE

Applicant's Name: DART CONTAINER CORP OF CALIFORNIA Facility ID: 3721

Mailing Address: 150 SOUTH MAPLE STREET
CORONA, CA 92880-1704

Equipment Location: SAME

This evaluation report covers a total of 24 applications. 16 of the 24 applications are previously issued P/C; six (6) of the 24 applications are P/O no P/C for the existing equipment; one (1) of the 24 applications is submitted for change-of-condition; and the remaining one (1) covers the required Title V Facility Permit Revision.

EQUIPMENT DESCRIPTION

Appl. No. 347376 – Issue P/O for Process 10 System 1, OPS Processing

This application is superseded by A/N: 511293.

Appl. No. 347384 – Issue P/O for Process 8 System 2, DI Foam Reclaim Line 1 **Lead Application!**

No Equipment Description Change

Appl. No. 347385 – Issue P/O for Process 8 System 2, DI Foam Reclaim Line 2

No Equipment Description Change

Appl. No. 347390 – Issue P/O for Process 12, Pentane UST (D251)

Administrative change to the P/C, by:

the addition of:

- Vapor return line
- Vent to RTO

Appl. No. 347392 – Issue P/O for Process 11, ESP (C244)

No Equipment Description Change

Appl. No. 347394 – Issue P/O for Process 9 System 2, Oxidizer (C224)

This application is superseded by A/N: 511295.

Appl. No. 347396 – Issue P/O for Process 10 System 2

Change from OPS Reclaim Extrusion Line 4 to Plastic Grinding, Conveying and Storage System, by:

the removal of:

- D233, Reclaim Extruder, Line 4
- D235, Pelletizer

Appl. No. 347399 – Issue P/O for Process 10 System 2, OPS & HIPS Reclaim Extrusion Line 2

No Equipment Description Change

Appl. No. 347406 – Issue P/O for Process 8 System 1, DI Foam Manufacturing Line 3

No Equipment Description Change

Appl. No. 347407 – Issue P/O for Process 8 System 1, DI Foam Manufacturing Line 2

No Equipment Description Change

Appl. No. 347409 – Issue P/O for Process 8 System 1, DI Foam Manufacturing Line 1

Administrative change to the P/C, by:

the addition of:

- D275 – EXTRUDER, JOHNSON, L-100, LAMINATOR, DIAMETER: 4.5 IN.

Appl. No. 347415 – Issue P/O for Process 8 System 1, DI Foam Manufacturing Line 4

No Equipment Description Change

Appl. No. 347419 – Issue P/O for Process 12, Pentane UST (D252)

Administrative change to the P/C, by:

the addition of:

- Vapor return line
- Vent to RTO

Appl. No. 347486 – Issue P/O for Process 9 System 1, Baghouse (C250)

No Equipment Description Change

Appl. No. 347491 – Issue P/O for Process 13, Emergency ICE (D253)

This application is superseded by A/N: 448879.

Appl. No. 389113 – Issue P/O for Process 3, Boiler/Afterburner (D254)

No Equipment Description Change

Appl. No. 393798 – P/O no P/C for an existing ESP (C277)

ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, VENTING EXTRUDER D275.

Appl. No. 393801 – P/O no P/C for an existing baghouse (C279)

BAGHOUSE, TORIT, MODEL DFT 3-24, 2,880 SQ. FT., VENTING STORAGE BIN D237.

Appl. No. 448879 – Change of Condition to the emergency ICE (D253) (P/C 347491)

No Equipment Description Change

Appl. No. 448881 – P/O no P/C for an existing ESP (C278)

ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, VENTING EXTRUDER D238

Appl. No. 448883 – P/O no P/C for an existing ESP (C283)

ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, VENTING ONE THERMOFORMER D280

Appl. No. 448884 – P/O no P/C for an existing ESP (C284)

ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, VENTING THERMOFORMER D281

Appl. No. 448885 – P/O no P/C for an existing ESP (C285)

ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, VENTING THERMOFORMER D282

Equipment	ID No.	Connected to	RECLAIM Source Type/ Monitoring Unit	Emission and Requirements	Conditions
Process 2: ~~PLASTIC EXTRUSION~~ *HIGH IMPACT POLYSTYRENE MANUFACTURING*					
System 1: *HIPS EXTRUSION* LINE #1					
HOPPER, FEED A/N: 234905	D177			**PM:** (9) **[RULE 405, 2-7-1986]**	D323.2
EXTRUDER A/N: 234905	D178	C179 C195			C1.1

ELECTROSTATIC PRECIPITATOR, SMOG HOG, MODEL SH20 A/N: 234907	C179	D178		**PM:** (9) **[RULE 404, 2-7-1986]**	***A63.1,*** D323.1, E202.2, ***H23.4,*** K67.2
System 2: *HIPS EXTRUSION* LINE #2					
HOPPER, FEED A/N: 316737	D193			**PM:** (9) **[RULE 405, 2-7-1986]**	D323.2
EXTRUDER, ROLL, WELEX, POLYSTYRENE A/N: 316737	D194	C195			C1.2
ELECTROSTATIC PRECIPITATOR, SMOG HOG, MODEL F-66L A/N: 316736	C195	D194		**PM:** (9) **[RULE 404, 2-7-1986]**	***A63.1,*** D323.1, E202.2, ***H23.4,*** K67.2
System 3: THERMOFORMING (NEW)					
FORMING MACHINE, THERMOFORMER, COMMON TO ALL HIPS EXTRUSION LINES A/N: 316737	***D280 (NEW)***	***C283***			***D323.2***
FORMING MACHINE, THERMOFORMER, COMMON TO ALL HIPS EXTRUSION LINES A/N: 316737	***D281 (NEW)***	***C284***			***D323.2***
FORMING MACHINE, THERMOFORMER, COMMON TO ALL HIPS EXTRUSION LINES A/N: 316737	***D282 (NEW)***	***C285***			***D323.2***
ELECTROSTATIC PRECIPITATOR, SMOKEMASTER, 20,000 VOLTS PER INCH A/N: 448883	***C283 (NEW)***	***D280***		***PM: (9) [RULE 404, 2-7-1986]***	***A63.1, D323.1, E202.2, H23.4, K67.2***
ELECTROSTATIC PRECIPITATOR, SMOKEMASTER, 20,000 VOLTS PER INCH A/N: 448884	***C284 (NEW)***	***D281***		***PM: (9) [RULE 404, 2-7-1986]***	***A63.1, D323.1, E202.2, H23.4, K67.2***
ELECTROSTATIC PRECIPITATOR, SMOKEMASTER, 20,000 VOLTS PER INCH A/N: 448885	***C285 (NEW)***	***D282***		***PM: (9) [RULE 404, 2-7-1986]***	***A63.1, D323.1, E202.2, H23.4, K67.2***
Process 3: EXTERNAL COMBUSTION					

BOILER, NO. 4, NATURAL GAS CLEAVER BROOKS, MODEL CB-700HP, FIRE TUBE TYPE, LOW NOX BURNER, 29 MMBTU/HR WITH A/N: 389113 BURNER, RADIAN/URS RAPID MIX, LOW NOX BURNER, 29 MMBTU/HR	D254	D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 D23 D24 D25 D26 D27 D28 D29 D30 D31 D70 D71 D111 D112 D113 D114 D115 D116 D117 D118 D119 D120 D121 D122 D123 D124 D125 D126 D127 D128 D129 D130 D131 D132 D133 D134 D135 D136	NOX: LARGE SOURCE**	**CO:** 2000 PPMV NATURAL GAS (5A) **[RULE 407, 4-2-1982]**; **CO:** 400 PPMV NATURAL GAS (5) **[RULE 1146, 11-17-2000;** RULE 1146, 9-5-2008**]**; **CO:** 50 PPMV NATURAL GAS (4) [**RULE 1303(a)(1), 12-6-2002**]; NOX: 9 PPMV NATURAL GAS (3) [**RULE 2012, 5-6-2005**]; NOX: 9 PPMV NATURAL GAS (4) [**RULE 2005, 5-6-2005**]; **PM:** 0.1 GRAINS/SCF (5**) [RULE 409, 8-7-1981]**; **PM:** (9) **[RULE 404, 2-7-1986]**; **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]; ***SOX****: 500 PPMV NATURAL GAS (5)* **[RULE 407, 4-2-1982]**	C8.1, D12.2, ~~**D28.4,** ***D29.2,***~~ D328.1, D371.1, E71.1
Process 5: R219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES					
RULE 219 EXEMPT EQUIPMENT, COOLING TOWERS	***E286 (NEW)***				***H23.6***
RULE 219 EXEMPT EQUIPMENT, DRYER, SPACE HEATER, SCAQMD RULE 1146.2 TYPE 1, NATURAL GAS, 0.25 MMBTU/HR	***E287 (NEW)***				***H23.7***
RULE 219 EXEMPT EQUIPMENT, DIESEL TANK, 30,000 GALLON CAPACITY	***E288 (NEW)***				***H23.8***
Process 8: DIRECT INJECTION FOAM MANUFACTURING					P13.1, P13.2
System 1: DIRECT INJECTION FOAM PROCESSING					
EXTRUDER, DI FOAM, LINE 3, GLOUCESTER, POLYSTYRENE, ~~**3 TOTAL**~~ ***2 IN SERIES*** A/N: 347406	D203	C224		~~**PM: (9) [RULE 405, 2-7-1986];**~~ **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~**B61.1,**~~ ***B163.1***, C1.4, ~~**D323.2,**~~ K67.5
EXTRUDER, DI FOAM, LINE 2, GLOUCESTER, POLYSTYRENE, ~~**3 TOTAL**~~ ***2 IN SERIES*** A/N: 347407	D206	C224		~~**PM: (9) [RULE 405, 2-7-1986];**~~ **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~**B61.1,**~~ ***B163.1***, C1.4, ~~**D323.2,**~~ K67.5
EXTRUDER, DI FOAM, LINE 1, GLOUCESTER, POLYSTYRENE, ~~**2 TOTAL**~~ ***2 IN SERIES*** A/N: 347409	D207	C224		~~**PM: (9) [RULE 405, 2-7-1986];**~~ **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~**B61.1,**~~ ***B163.1***, C1.4, ~~**D323.2,**~~ K67.5
EXTRUDER, GLOUCESTER, LAMINATOR A/N: 347409	***D275 (NEW)***	***C277***			***C1.5***
EXTRUDER, DI FOAM, LINE 4, GLOUCESTER, POLYSTYRENE, ~~**3 TOTAL**~~ ***2 IN SERIES*** A/N: 347415	D211	C224		~~**PM: (9) [RULE 405, 2-7-1986];**~~ **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~**B61.1,**~~ ***B163.1***, C1.4, ~~**D323.2,**~~ K67.5

STORAGE BUILDING, ROLL, COMMON TO ~~D-203, 206, 207, & 211~~ ***ALL DI FOAM PROCESSES***, ~~4 TOTAL~~ A/N: 347406	D204	C224		**VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~B61.1, D323.2, K67.5~~
FORMING MACHINE, THERMOFORMERS & TRIM PRESSES, IRWIN MODEL 48 & 50 COMMON TO ~~D-203, 206, 207, & 211~~ ***ALL DI FOAM PROCESSES***, ~~20~~ *7* TOTAL A/N: 347406	D205			**VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~B61.1, K67.5~~
System 2: FOAM RECLAIM					
GRINDER, BALL & JEWELS, TRIM/SCRAP, COMMON TO ALL DI ***FOAM*** LINES, 21 TOTAL A/N: 347384	D214	***C224*** C250		**PM:** (9) **[RULE 405, 2-7-1986]**; ***VOC: (9) [RULE1175, 5-13-1994; RULE 1175, 9-7-2007]***	~~B61.1,~~ D323.2, K67.5
GRINDER, WIEMA, ***ROLL***, COMMON TO ALL DI ***FOAM*** LINES A/N: 347384	D215	***C224*** C250		**PM:** (9) **[RULE 405, 2-7-1986]**; ***VOC: (9) [RULE1175, 5-13-1994; RULE 1175, 9-7-2007]***	~~B61.1,~~ D323.2, K67.5
BIN, HOLDING, ~~FLUF,~~ POLYSTYRENE ***FOAM FLUFF***, ~~COMMON TO D-213, 220 & 222~~, WITH CYCLONE, 15 TOTAL A/N: 347384	D218	***C224*** C250		**PM:** (9) **[RULE 405, 2-7-1986]**; ***VOC: (9) [RULE1175, 5-13-1994; RULE 1175, 9-7-2007]***	~~B61.1,~~ D323.2, K67.5
EXTRUDER, DI ***FOAM*** RECLAIM, LINE 1, GLOUCESTER, POLYSTYRENE A/N: 347384	D213	C224		**PM:** (9) **[RULE 405, 2-7-1986]**; **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~B61.1,~~ ***C1.7,*** D323.2, K67.5
PELLETIZER, WITH CUTTER & ELECTRIC DRYER, BERINGER A/N: 347384	D216			**PM:** (9) **[RULE 405, 2-7-1986]**;	~~B61.1,~~ D323.2, K67.5
EXTRUDER, DI RECLAIM, LINE 2, GLOUCESTER, POLYSTYRENE A/N: 347385	D220	C224		**PM:** (9) **[RULE 405, 2-7-1986]**; **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	~~B61.1,~~ ***C1.7,*** D323.2, K67.5
PELLETIZER, WITH CUTTER & ELECTRIC DRYER, BERINGER A/N: 347385	D221			**PM:** (9) **[RULE 405, 2-7-1986]**;	~~B61.1,~~ D323.2, K67.5
STORAGE SILO, ***POLYSTYRENE*** PELLETS, ***VIRGIN,*** COMMON TO DI & OPS PROCESSES, ~~WITH FABRIC FILTER,~~ 4 TOTAL A/N: 347384	D217			**PM:** (9) **[RULE 404, 2-7-1986; 405, 2-7-1986]**;	~~B61.1, D322.1,~~ D381.2, ~~K67.4, K67.5~~
STORAGE SILO, ***POLYSTYRENE*** PELLETS, ***VIRGIN AND RECLAIMED***, ~~COMMON TO DI, OPS, ETC. WITH FABRIC FILTER~~, 8 TOTAL A/N: 347384	D219 *(Common to OPS and HIPS)*			**PM:** (9) **[RULE 404, 2-7-1986; 405, 2-7-1986]**;	~~B61.1, D322.1,~~ D381.2, ~~K67.4, K67.5~~
Process 9: APC EQUIPMENT FOR DI & DI RECLAIM FOAM MANUFACTURING					
System 1: BAGHOUSE					

BAGHOUSE, TORIT, MODEL DFT-4-64, 8128 SQ. FT. A/N: 347486	C250	D214 D215 D218 C224		**PM:** (9) **[RULE 404, 2-7-1986]**	*C10.1,* ~~D12.4,~~ D322.1, ~~D381.1,~~ ~~E102.1,~~ *E448.2, H23.2,* K67.4
System 2: OXIDIZER					
OXIDIZER, ~~HOT BED,~~ *THERMAL REGENERATIVE, TWO BEDS,* SMITH ENVIRONMENTAL, NATURAL GAS, *WITH A 250-HP BLOWER,* ~~WITH LOW EXCESS AIR FIRING, 8 MMBTU/HR~~ WITH A/N: ~~347394~~ ***(This application is superseded by A/N: 511295, see Eng. Evaluation A/N: 511293 for detail description)*** BURNER, NATURAL GAS, ECLIPSE, MODEL RATIOMATIC, WITH LOW NOX BURNER, 8 MMBTU/HR *BURNER, NATURAL GAS INJECTION MODE, 7 MMBTU/HR*	C224	D203 D204 D206 D207 D211 D213 D220 C250 D251 D252	NOX: PROCESS UNIT**	**CO:** 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; NOX: ~~30~~ *1* PPMV NATURAL GAS (3) [RULE 2012, 5-6-2005] NOX: ~~30~~ *1* PPMV NATURAL GAS (4) [RULE 2005, 5-6-2005]; *NOX: 130 LBS/MMCF NATURAL GAS (1) [RULE 2012, 5-6-2005];* **PM:** 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**; **PM:** (9) **[RULE 404, 2-7-1986]**; **VOC:** (9) **[RULE1175, 5-13-1994**; RULE 1175, 9-7-2007]	*A99.1, A99.2,* B59.1, D28.1, ~~D28.2,~~ *D29.1,* D94.1, E193.1, K40.1, K48.1
System 3: ELECTROSTATIC PRECIPITATOR (NEW)					
ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, 20,000 VOLTS PER INCH *A/N: 393798*	*C277 (NEW)*	*D275*		*PM: (9) [RULE 404, 2-7-1986]*	*A63.1, D323.1, E202.2, H23.4, K67.2*
Process 10: OPS MANUFACTURING					P13.2
System 1: OPS PROCESSING					
EXTRUDER, OPS, LINE 1, DAVIS STANDARD, POLYSTYRENE A/N: ~~347376~~ ***(This application is superseded by A/N: 511293, see Eng. Evaluation A/N: 511293 for detail description)***	D226	C244		**PM:** (9) **[RULE 405, 2-7-1986]**	B59.2, *C1.8,* D323.2
OVEN, FIVE ZONE BURNER, NATURAL GAS, MAXON, 4.2 MMBTU/HR WITH A/N: ~~347376~~ ***(This application is superseded by A/N: 511293, see Eng. Evaluation A/N: 511293 for detail description)*** BURNER, WITH LOW NOX BURNER, 4.2 MMBTU/HR	D227		NOX: PROCESS UNIT**	**CO:** 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; **NOX**: 30 PPMV NATURAL GAS (3) **[RULE 2012, 5-6-2005]; NOX**: 30 PPMV NATURAL GAS (4) **[RULE 2005, 5-6-2005]; PM:** (9) **[RULE 404, 2-7-1986]; PM:** 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**	C6.2, ~~D28.1~~, *D28.2,* ~~D28.3,~~ D323.2, K40.1

FORMING MACHINE, THERMOFORMERS & TRIM PRESSES, IRWIN MODEL 48 & 50 ~~COMMON TO D-226, 227, 230, & 231, 14~~ *2* TOTAL A/N: ~~347376~~ ***(This application is superseded by A/N: 511293, see Eng. Evaluation A/N: 511293 for detail description)***	D229				D323.2
System 2: OPS *AND HIPS* RECLAIM PROCESSING					
~~EXTRUDER, RECLAIM OPS, LINE 4, WELEX, POLYSTYRENE A/N: 347396~~	~~D233~~			~~**PM:** (9) **[RULE 405, 2-7-1986]**~~	~~D323.2~~
~~PELLETIZER, WITH CUTTER & ELECTRIC DRYER, BERINGER A/N: 347396~~	~~D235~~			~~**PM:** (9) **[RULE 405, 2-7-1986]**~~	~~D323.2~~
GRINDER, TRIM/SCRAP*/ROLL*, ~~POLYSTYRENE, COMMON TO D-233, & 238,~~ *OPS AND HIPS,* 15 TOTAL A/N: 347396	D236			**PM:** (9) **[RULE 405, 2-7-1986]**	D323.2
BIN, HOLDING, *OPS AND HIPS* FLAKE, ~~**POLYSTYRENE, COMMON TO ALL OPS PROCESSES,**~~ WITH CYCLONE, 12 TOTAL A/N: ~~347384~~ *347396*	D237	*C279*		**PM:** (9) **[RULE 404, 2-7-1986; RULE 405, 2-7-1986]**	D323.2
EXTRUDER, RECLAIM OPS *AND HIPS*, LINE 2, WELEX, ~~**POLYSTYRENE**~~ A/N: 347399	D238	*C277*		**PM:** (9) **[RULE 405, 2-7-1986]**	*C1.9,* D323.2
PELLETIZER, WITH CUTTER & ELECTRIC DRYER, ~~**POLYSTYRENE**~~ *BERINGER* A/N: 347399	D239			**PM:** (9) **[RULE 405, 2-7-1986]**;	D323.2
STORAGE SILO, *POLYSTYRENE* PELLETS, *RECLAIMED,* ~~**COMMON TO DI, OPS, ETC. WITH FABRIC FILTER**~~, 8 TOTAL A/N: 347384	D219 *(Added, Common to DI and HIPS)*			**PM:** (9) **[RULE 404, 2-7-1986; 405, 2-7-1986]**;	~~**B61.1, D322.1,**~~ D381.2, ~~**K67.4, K67.5**~~
Process 11: APC EQUIPMENT FOR OPS AND OPS RECLAIM EXTRUDERS					
ELECTROSTATIC PRECIPITATOR, ~~**SMOKEMASTER,**~~ *AIR QUALITY ENGINEERING, MODEL F66L1626,* 20,000 VOLTS PER INCH A/N: 347392	C244	D226		**PM:** (9) **[RULE 404, 2-7-1986]**	*A63.1,* D323.1, E202.2, *H23.4, K67.2*
ELECTROSTATIC PRECIPITATOR, AIR QUALITY ENGINEERING, MODEL F66L1626, 20,000 VOLTS PER INCH A/N: 448881	***C278 (NEW)***	***D238***		***PM: (9) [RULE 404, 2-7-1986]***	***A63.1, D323.1, E202.2, H23.4, K67.2***
BAGHOUSE, TORIT, MODEL DFT 3-24, 2880 SQ. FT., PULSE JET, A/N: 393801	***C279 (NEW)***	***D237***		***PM: (9) [RULE 404, 2-7-1986]***	***A63.1, C10.1, D322.1, D381.1, E448.1, H23.4, K67.4***
Process 12: ISO-PENTANE PRESSURIZED UNDERGROUND TANKS					

TANK, ISO-PENTANE, LENGTH: 42 FT 7 IN; DIAMETER: 11 FT 10 IN, 35,000 GALLON CAPACITY, UNDERGROUND, ***WITH VAPOR RETURN LINE*** A/N: 347390	D251	***C224***			***C1.6, C157.1, E71.2***
TANK, ISO-PENTANE, LENGTH: 42 FT 7 IN; DIAMETER: 11 FT 10 IN, 35,000 GALLON CAPACITY, UNDERGROUND, ***WITH VAPOR RETURN LINE*** A/N: 347419	D252	***C224***			***C1.6, C157.1, E71.2***
Process 13: INTERNAL COMBUSTION ENGINES					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, DEERE, MODEL 4045 ST, 100 BHP A/N: ~~347491~~ ***448879***	D253		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (3) **[RULE 2012, 5-6-2005]; PM:** (9) **[RULE 404, 2-7-1986];** ***PM: 0.15 GR/BHP-HR DIESEL (5) [RULE 1470, 6-1-2007]***	~~C1.3,~~ D12.3, ***E448.2, H23.5***, K67.3

PERMIT CONDITIONS

The following permit conditions are revised:

F16.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

In order to ensure compliance with condition F2-1, the VOC emissions from the facility shall be calculated using the following procedures:

For DI foam process, pounds per day VOC emissions = (polystyrene ~~feed rate in primary extruder per line~~ ***foam sheet production rate***, in pound/day)X(~~0.0076~~ ***0.01258***).

For EPS process, pounds per day VOC emissions = (~~polystyrene~~ ***EPS beads*** feed rate in pound/day)X(0.00804).

For VOC containing materials including alcohol, pounds per day VOC emissions = (gallons per day of VOC containing materials)X(VOC content in pounds per gallon of material)

Based on the source test results, the emission factors for the DI foam & EPS processes may be adjusted and the ~~applicant~~ ***facility permit holder*** will be notified. Upon notification from the District, the adjusted emission factors shall be used for the emission calculations.

[**RULE 1303(b)(1)-Offset, 5-10-1996**; RULE 1303(b)(1)-Offset, 12-6-2002]

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1175

[RULE 1175, 5-13-1994; Rule 1175, 9-7-2007]

[Processes subject to this condition: 1, ***8***]

~~P53.1 The following conditions shall apply to the equipment in this process:~~

~~1. The operator shall conduct a source test to demonstrate compliance with Rule 1175(c)(2) and to re-calculate EPS line emission factor in accordance with the following conditions:~~

~~2. The test shall be conducted only after a source test protocol has been approved by the District.~~

~~3. The test shall be conducted within 180 days after issuance of the permit to construct, but no later than 60 days after completion of the proposed modification.~~

~~4. A complete source test report shall be submitted to the District within 60 days of the completion of the test.~~

~~5. The source test shall determine: a) the pentane content of the raw EPS bead b) the pentane content of the pre-puff exiting the aging room c) the pentane collection efficiency of the system d) the pentane content of freshly molded, 3-month old, and 6-month old foam cups.~~

~~6. The operator shall comply with the AQMD "Guidelines For Construction of Sampling and Testing Facilities", pursuant to Rule 217.~~

~~7. The District shall be notified of the date and time of the test at least 10 days prior to the test.~~

~~[**RULE 1175, 5-13-1994**; Rule 1175, 9-7-2007]~~

~~[Processes subject to this condition: 1]~~

~~A63.1 The operator shall limit emissions from this equipment as follows:~~

~~Contaminant~~	~~Emission Limit~~
~~VOC~~	~~Less than or equal to 3281 lbs in any one day~~

~~For the purposes of this condition, the limit(s) shall be based on the total combined facility emissions.~~

~~[**RULE 1303(b)(1) Offset, 5-10-1996**; RULE 1303(b)(1) Offset, 12-6-2002]~~

~~[Devices subject to this condition: D1]~~

A63.1 The operator shall limit emissions from this equipment as follows:

Contaminant	*Emission Limit*
Visible Emissions	*Less than or equal to 0 percent opacity*

[RULE 1155, 12-4-2009]

[Devices subject to this condition: C179, C195, C244, C277, C278, C279, C283, C284, C285]

A99.1 The 130 LBS/MMCF NOX emission limit(s) shall only apply to the operation of the Eclipse start-up burner. The operator shall report NOx emissions from the RTO as the sum of emissions from the operations of burner mode and gas injection mode. The NOx emissions from the operation of start-up burner mode shall be determined based on the 130 LBS/MMSCF and the natural gas used by the Eclipse start-up burner.

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the fuel usage being supplied to the Eclipse start-up burner.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: C224]

A99.2 The 1 PPM NOX emission limit(s) shall only apply to the operation of the RTO natural gas injection mode. The operator shall report NOx emissions from the RTO as the sum of emissions from the operations of burner mode and gas injection mode. The NOx emissions from the operation of gas injection mode shall be determined based on the 1 PPM stack concentration limit and the actual stack flow rate measured by the stack flow monitor.

To comply with this condition, the operator shall install and maintain a District-certified continuous flue gas flow monitoring system to accurately indicate the flue gas flow from the RTO.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: C224]

~~B61.1 The operator shall not use blowing agent containing the following specified compounds:~~

~~Compound~~	~~Weight percent~~
~~isopentane greater than~~	~~4.5~~

~~The above limit shall be based on a monthly average.~~

~~[**RULE 1303(a)(1) BACT, 5-10-1996**; RULE 1303(a)(1) BACT, 12-6-2002]~~

~~[Devices subject to this condition: D203, D204, D205, D206, D207, D211, D213, D214, D215, D216, D217, D218, D219, D220, D221]~~

B163.1 The operator shall not use raw materials containing the following:

Iso-pentane exceeding 4.5% of raw materials by weight

To demonstrate compliance with this condition, the iso-pentane concentration of raw materials shall be defined as monthly usage of iso-pentane in this equipment divided by monthly production of the foam sheets from this equipment.

To demonstrate compliance with this condition, records of the monthly usage of iso-pentane and monthly production of the foam sheets in this equipment shall be kept in a format acceptable by the District and made available to the Executive Office or his representative upon request.

***[RULE 1175, 5-13-1994**; Rule 1175, 9-7-2007, **RULE 1303(a)(1)-BACT, 5-10-1996;** RULE 1303(a)(1)-BACT, 12-6-2002]*

[Devices subject to this condition: D203, D206, D207, D211]

C1.1 The operator shall limit the material processed to no more than 12 tons in any one day.

For the purpose of this condition, material processed shall be defined as polystyrene pellets.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D178]

C1.2 The operator shall limit the material processed to no more than 24 tons in any one day.

For the purpose of this condition, material processed shall be defined as polystyrene pellets.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D194]

~~C1.3 The operator shall limit the operating time to no more than **199** hour(s) in any one year.~~

~~**[RULE 1110.2, 11-14-1997; RULE 1304(A) Modeling and Offset Exemption, 6-14-1996; RULE 2012, 12-7-1995;** RULE 2012, 4-9-1999**]**~~

~~[Devices subject to this condition: D253]~~

C1.4 The operator shall limit the ~~**material processed**~~ ***production rate*** to no more than 24000 lb(s) in any one day.

For the purpose of this condition, ~~**material processed**~~ ***the product*** shall be defined as polystyrene ~~**feed rate in primary extruder**~~ ***foam sheet***.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D203, D206, D207, D211]

C1.5 The operator shall limit the material processed to no more than 14400 lb(s) in any one day.

For the purpose of this condition, material processed shall be defined as polystyrene pellets.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D275]

C1.6 The operator shall limit the material processed to no more than 1 turnover(s) in any one month.

For the purpose of this condition, material processed shall be defined as iso-pentane.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D251, D252]

C1.7 The operator shall limit the material processed to no more than 28800 lb(s) in any one day.

For the purpose of this condition, material processed shall be defined as polystyrene pellets.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D213, D220]

C1.8 The operator shall limit the material processed to no more than 64.8 ton(s) in any one day.

For the purpose of this condition, material processed shall be defined as polystyrene pellets.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D226]

C1.9 The operator shall limit the material processed to no more than 24 ton(s) in any one day.

For the purpose of this condition, material processed shall be defined as reclaimed polystyrene flakes.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D238]

C10.1 The operator shall use this equipment in such a manner that the differential pressure being monitored, as indicated below, is maintained between 0.3 and 8 inches water column.

To comply with this condition, the operator shall install and maintain a(n) gauge to accurately indicate the differential pressure between the filter.

[RULE 1303(a)(1)-BACT, 5-10-1996; *RULE 1303(a)(1)-BACT, 12-6-2002]*

[Devices subject to this condition: C250, C279]

C157.1 The operator shall install and maintain a pressure relief valve set at 2 psig.

[RULE 1303(a)(1)-BACT, 5-10-1996; *RULE 1303(a)(1)-BACT, 12-6-2002]*

[Devices subject to this condition: D251, D252]

~~D12.4 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the filter.~~

~~**[RULE 1303(a)(1) BACT, 5-10-1996;** RULE 1303(a)(1) BACT, 12-6-2002]~~

~~[Devices subject to this condition: C250]~~

D28.1 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted to demonstrate compliance with the source testing requirements of Rule 2012 for a Process Unit opting to comply with a NOx concentration limit.

The test shall be conducted at least ~~**12 months after issuance of this permit and**~~ once every 5-year period ~~**with the first 5 year period ending June 30, 2005**~~.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: C224, D227]

~~D28.2 The operator shall conduct source test(s) in accordance with the following specifications:~~

~~The test shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.~~

~~The test shall be conducted to include, but not be limited to, test of inlet to the afterburner, and the afterburner exhaust for; 1) volatile organic compound (VOC) in PPMV and lbs/hr, 2) benzene in lbs/hr during Natural gas combustion (exhaust only), 3) oxides of nitrogen (NOx) and carbon monoxide (CO) at start-up and during normal operation (exhaust only).~~

~~The test shall be conducted to determine the flow rate in ACFM and DSCFM.~~

~~The test shall be conducted to determine the collection, destruction, and overall control efficiency based on the mass of VOC used in the basic equipment/process served by this control system. The test data shall be adequate to establish an emission factor for calculating the emissions for DI & DI reclaim process.~~

~~The test shall be conducted to determine the usage of all VOC containing materials in the basic equipment/process during the test and their respective VOC contents/emission factors shall be recorded.~~

~~The test shall be conducted to determine the VOC in the product manufactured during the test immediately after production, 48 hours after production, and one year after production.~~

~~The test shall be conducted according to District approved protocol. A source test protocol shall be submitted to the District not later than 45 days before the proposed test date and shall be approved by the District before the test commences. The protocol shall include the proposed operating conditions of the basic & control equipment during the test, the identity of the testing laboratory, a statement from the testing laboratory certifying it meets the criteria in District Rule 304(k), and description of all sampling and analytical.~~

~~The District shall be notified of the date and time of the test at least 7 days prior to the test.~~

~~**[RULE 1303(a)(1) BACT, 5-10-1996**; RULE 1303(a)(1) BACT, 12-6-2002]~~

~~[Devices subject to this condition: C224]~~

~~D28.3 The operator shall conduct source test(s) in accordance with the following specifications:~~

~~The test shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.~~

~~The District shall be notified of the date and time of the test at least 10 days prior to the test.~~

~~The test shall be conducted to determine the flowrate in ACFM and DSFM.~~

~~The test shall be conducted after a source test protocol is submitted by the applicant and approved by the District.~~

~~The test shall be conducted to determine NOx emissions in ppmv (corrected at 3 percent O2) & lbs/hr, at the heater exhaust.~~

~~**[RULE 1303(a)(1) BACT, 5-10-1996]**~~

~~[Devices subject to this condition: D227]~~

~~D28.4 The operator shall conduct source test(s) in accordance with the following specifications:~~

~~The test shall be conducted at least once every five years.~~

~~The test shall be conducted to determine the ROG emissions at the outlet.~~

~~The test shall be conducted to determine the ROG emissions using District method 25.1 measured over a 60 minute averaging time period.~~

~~The test shall be conducted to demonstrate compliance with Rule 1175.~~

~~**[RULE 2012, 12-7-1995; RULE 2012, 4-9-1999]**~~

~~[Devices subject to this condition: D180, D181, D182, D254]~~

D28.2 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted to demonstrate compliance with the source testing requirements of Rule 2012 for a Process Unit opting to comply with a NOx concentration limit.

The test shall be conducted pursuant to Rule 2012, Appendix A, Chapter 5, Subdivision H – Alternative Method for Demonstrating Compliance with Concentration Limit.

The test shall be conducted after a source test protocol is submitted by the applicant and approved by the District.

The test shall be conducted at least 12 months after issuance of this permit and once every 5-year period with the first 5 year period ending June 30, 2015.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: D227]

D29.1 The operator shall conduct source test(s) for the pollutant(s) identified below:

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
VOC	Method(s) specified in District Rule 1175	District-approved averaging time	Protocol to indicate test locations for collection efficiency demonstration
VOC	Method(s) specified in District Rule 1175	District-approved averaging time	Inlet and outlet simultaneously of oxidizer

The test(s) shall be conducted to demonstrate compliance with Rule 1175.

The test shall be conducted at least once every five years.

Not withstanding the source test requirements of Section E of this facility permit, the facility permit holder shall submit the protocol to the AQMD engineer at least 365 days prior to the expiration date of this Title V Facility Permit unless otherwise approved in writing by the District, and notify the District of the date and time of the test at least 10 days prior to the test.

The test shall be conducted at least 180 days prior to the expiration date of this Title V Facility Permit unless otherwise approved in writing by the District.

Source test shall be conducted in accordance with the equipment configuration and operation specified in the test protocol approved in writing by the District.

The source test shall be conducted when this equipment is operating at a temperature of not less than the minimum operating temperature specified in this permit. If the operating temperature during the source test is greater than the minimum operating temperature specified in this permit, the minimum operating temperature may be increased to reflect the operating temperature during the source test.

The operator shall also provide to the District a source test report containing, at a minimum, the following information:

Required data	Reported As
Collection efficiency of emission collection system	Under actual test condition
Destruction efficiency of oxidizer	Under actual test condition
VOC emissions in ppmV and lbs/hr to support collection efficiency and destruction efficiency results	Under actual test condition
VOC emission factor for DI & DI reclaim processes	Lbs VOC per 100 lbs raw materials

Operating temperature of oxidizer	*Degrees Fahrenheit*
Blowing agent process rate	*Lbs blowing agent per 100 lbs raw material processed*
Residual blowing agent content in product	*Lbs blowing agent per 100 lbs raw material processed*

Notwithstanding the requirements of Section E conditions, the source test results shall be submitted to the District no later than 60 days after the source test was conducted.

[RULE 1175, 5-13-1994; Rule 1175, 9-7-2007; **RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

[Devices subject to this condition: C224]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below:

Pollutant(s) to be tested	*Required Test Method(s)*	*Averaging Time*	*Test Location*
VOC	*Method(s) specified in District Rule 1175*	*District-approved averaging time*	*Protocol to indicate test locations for collection efficiency demonstration*
VOC	*Method(s) specified in District Rule 1175*	*District-approved averaging time*	*Inlet and outlet simultaneously of boiler/afterburner*

The test(s) shall be conducted to demonstrate compliance with Rule 1175(c)(2).

The test shall be conducted at least once every five years.

Not withstanding the source test requirements of Section E of this facility permit, the facility permit holder shall submit the protocol to the AQMD engineer at least 365 days prior to the expiration date of this Title V Facility Permit unless otherwise approved in writing by the District, and notify the District of the date and time of the test at least 10 days prior to the test.

The test shall be conducted at least 180 days prior to the expiration date of this Title V Facility Permit unless otherwise approved in writing by the District.

Source test shall be conducted in accordance with the equipment configuration and operation specified in the test protocol approved in writing by the District.

The source test shall be conducted when this equipment is operating at a temperature of not less than the minimum operating temperature specified in this permit. If the operating temperature during the source test is greater than the minimum operating temperature specified in this permit, the minimum operating temperature may be increased to reflect the operating temperature during the source test.

The operator shall also provide to the District a source test report containing, at a minimum, the following information:

Required data	*Reported As*
Collection efficiency of emission collection system	*Under actual test condition*

Destruction efficiency of boiler/afterburner	*Under actual test condition*
VOC emission factor for EPS processes	*Lbs VOC per 100 lbs raw EPS beads*
Blowing agent content in raw EPS beads	*Lbs blowing agent per 100 lbs raw material processed*
Residual blowing agent content in pre-puffs exiting the aging room	*Lbs blowing agent per 100 lbs raw material processed*
Operating temperature of the combustion chamber	*Degrees Fahrenheit*
Firing rate of the boiler/afterburner	*% load*
Production rate for all expanders	*Lbs/hr*

Notwithstanding the requirements of Section E conditions, the source test results shall be submitted to the District no later than 60 days after the source test was conducted.

[RULE 1175, 5-13-1994; Rule 1175, 9-7-2007; **RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

[Devices subject to this condition: D180, D181, D182, D254]

D322.1 The operator shall perform annual inspection of the equipment and filter media for leaks, broken or torn filter media, and improperly installed filter media:

[RULE 1155, 12-4-2009]

[Devices subject to this condition: C250, C279]

E71.2 The operator shall not load product to this equipment unless displaced vapors are returned to the supply vessel.

[*RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002*]

[Devices subject to this condition: D251, D252]

E448.1 The operator shall comply with the following requirements:

Dust collected in the baghouse shall be discharged only into enclosed container or returned to process and shall not be handled in a manner that may result in the re-release of collected materials to the atmosphere.

[RULE 1155, 12-4-2009]

[Devices subject to this condition: C250, C279]

E448.2 The operator shall comply with the following requirements:

This engine shall not be operated more than 200 hours in any one year, which includes no more than 50 hours in any one year for maintenance and testing and no more than 4.2 hours in any one month for maintenance and testing as required in Rule 1470(c).

Operation beyond the 50 hours per year allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the utility distribution company has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

This engine shall not be used as part of an interruptible service contract in which a facility receives a payment or reduced rates in return for reducing electric load on the grid when requested to so by the utility or the grid operator.

[RULE 1110.2, 2-1-2008; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 6-1-2007]

[Devices subject to this condition: D253]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
PM	District Rule	1155

[RULE 1155, 12-4-2009]

[Devices subject to this condition: C179, C195, C244, C250, C277, C278, C279, C283, C284, C285]

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
SOX	District Rule	431.2
PM	District Rule	1470

[RULE 1470, 6-1-2007; RULE 431.2, 9-15-2000]

[Devices subject to this condition: D253]

H23.6 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Chromium, Hexavalent	District Rule	1404

[RULE 1404, 4-6-1990]

[Devices subject to this condition: E286]

H23.7 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
NOX	District Rule	1146.2

[RULE 1146.2, 5-5-2006]

[Devices subject to this condition: E287]

H23.8 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	*Rule*	*Rule/Subpart*
VOC	*District Rule*	*463*

[RULE 463, 5-6-2005]

[Devices subject to this condition: D253]

K67.3 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

~~The date of operation~~

~~Elapsed time~~

~~Reason for the operation~~

~~All records shall be kept on the premises for at least two years and shall be made available upon request of executive officer or his representative.~~

A log of engine operations documenting the total time the engine is operated each month and the specific reason for operation as: A) emergency use, B) maintenance and testing, or C) other (be specific).

In addition, for each time the engine is manually started, the log shall include the date of engine operation, the specific reason for operation, and the totalizing hour meter readings (in hours and tenths of hours) at the beginning and the end of the operation.

On or before January 15th of each year, the operator shall record in the engine operating log: A) the total hours of engine operation for the previous calendar year, and B) the total hours of engine operation for maintenance and testing for the previous calendar year.

All records required by this condition shall be retained on the premises for at least five calendar years, and shall be made available to the Executive Officer or representative upon request.

*[RULE 1110.2, 11-14-1997; **RULE 1304(c)-Offset Exemption, 6-14-1996**; **RULE 2012, 12-7-1995**; RULE 2012, 4-9-1999, RULE 1470, 6-1-2007]*

[Devices subject to this condition: D253]

BACKGROUND/HISTORY

Dart Container Corporation in Corona (Dart) manufactures food serving polystyrene products, which indicated as follows:

1. Expanded Poly-Styrene (EPS) foam cups
2. Extruded Poly-Styrene (XPS) foam, or called Direct Injection (DI) foam products such as plates, bowls and trays.

3. Transparent Oriented Poly-Styrene (OPS) plastic containers such as cups, plates, lids etc.
4. Opaque High Impact Poly-Styrene (HIPS) plastic lids

Dart is a Title V and NOx RECLAIM facility. The initial Title V Permit for the facility was issued on March 26, 2001 and expired on March 25, 2006. A Title V Permit Renewal application (A/N: 448877) was submitted on September 21, 2005, and the proposed renewal permit will be submitted to EPA for review simultaneously with the subject permit revision.

Fifteen P/C to P/O applications submitted in 1998

On October 27, 1998, Dart submitted 28 Class-I applications for the following equipment:

1. **Eight (8)** DI foam extrusion lines
2. **Three (3)** DI foam reclaim extrusion lines
3. **Two (2)** OPS extrusion lines and **two (2)** ESP's
4. **Four (4)** OPS reclaim extrusion lines and **four (4)** ESP's
5. **One (1)** regenerative thermal oxidizer (RTO)
6. **One (1)** baghouse upstream of the oxidizer (pre-filter for RTO)
7. **One (1)** ICE, emergency generator
8. **Two (2)** iso-pentane UST's

All 28 applications were issued PC's on September 10, 1999. Based on a request letter from Dart dated August 8, 2000, two PC's (A/N 347378 - OPS line 2, and A/N 347393 – ESP) were cancelled and the other 26 PC's were extended until September 10, 2001. Based on another letter from Dart on June 4, 2002, additional 11 PC's were cancelled. Thus, only 15 equipments/processes, which were installed and operated, will be evaluated for operating permits under this report. These 15 equipments/processes are described as follows:

1. **Four (4)** DI foam extrusion lines (Appl. Nos. 347406, 347407, 347409 & 347415)
2. **Two (2)** DI foam reclaim extrusion lines (Appl. Nos. 347384 & 347385)
3. **One (1)** OPS extrusion lines and **one (1)** ESP (Appl. Nos. 347386$^{\alpha}$ & 347392)
4. **One (1)** OPS/HIPS grinders and flake storage system (Appl. No. 347396)
5. **One (1)** OPS/HIPS reclaim extrusion line (Appl. No. 347399)
6. **One (1)** regenerative thermal oxidizer (RTO) (Appl. No. 347394$^{\beta}$)
7. **One (1)** baghouse upstream of the oxidizer (Appl. No. 347486)
8. **One (1)** ICE, emergency generator (Appl. No. 347491$^{\chi}$)
9. **Two (2)** iso-pentane UST's (Appl. Nos. 347390 & 347419)

α. A/N 347386 is superseded by A/N 511293
β. A/N 347394 is superseded by A/N 511295
χ. A/N 347491 is superseded by A/N 448879

One additional P/C to P/O application submitted in 2001

On 09/11/02 and 06/24/03, Dart filed application nos. 406665, 416882, 416884, 416885, and 416886, proposed alterations to their polystyrene bead expansion and molding system reflected under Systems 1 and 2 (A/N 316738) of Process 1 (Foam Cup Manufacturing), and to change of condition of the facility's four boilers/afterburners [D180 (A/N 316735), D181 (A/N 316734), D182 (A/N 362217), and D254 (A/N 389113)]. All six applications were issued PC's on September 20, 2005, but they were expired on October 26, 2006, because the proposed modification project had never been implemented.

Boiler/afterburner D254, which is covered by A/N 416886, will be covered by the previously issued P/C application no. 389113. The permit to construct for this application was issued on October 9, 2001. The evaluation for issuing an operating permit for this boiler/afterburner is also included in this report.

Other applications covered by this report

On December 04, 2001, September 21, 2005, and November 01, 2005, Dart submitted eight applications as indicated below:

Appl. No.	Type	Previous Permit No.	Equipment
393798	PO no PC	N/A	ESP (C277)
393801	PO no PC	N/A	Baghouse (C279)
448879	Change of Condition	P/C 347491	Emergency ICE (D253)
448881	PO no PC	N/A	ESP (C278)
448883	PO no PC	N/A	ESP (C283)
448884	PO no PC	N/A	ESP (C284)
448885	PO no PC	N/A	ESP (C285)
450086	Plan	N/A	Title V / RECLAIM Permit Revision

Appl. No. 393798 was submitted on December 04, 2001, as a class-III application for an existing ESP (C277) that controls the PM10 emissions generated from the laminator (D275) under DI foam line no. 1 (P/C 347409).

Appl. No. 393801 was submitted on December 04, 2001, as a class-III application for an existing baghouse (C279) venting a polystyrene flake storage bin (D237) under P/C 347399. Storage bin D237 is used to process ground polystyrene flakes in the OPS/HIPS reclaim process.

Appl. No. 448879 was submitted on September 21, 2005, as a change-of-condition application for the emergency ICE (D253 under P/C 347491) to allow operation as part of an utility company rotating power outage as required by Rule 1470. A/N 448879 will supersede A/N 347491.

Appl. No. 448881 was submitted on September 21, 2005, as a class-III application for an existing ESP (C278) that controls the PM10 emissions generated from the polystyrene reclaim extruder (D238 under P/C 347399). Extruder D238 is used for re-pelletizing the recycled OPS/HIPS flakes.

Appl. No. 448883 was submitted on September 21, 2005, as a class-III application for an existing ESP (C283) that controls the PM10 emissions generated from the HIPS lid thermo-former (D280 under A/N: 316737). The thermo-former D280 will be also created in the facility permit.

Appl. No. 448884 was submitted on September 21, 2005, as a class-III application for an existing ESP (C284) that controls the PM10 emissions generated from the HIPS lid thermo-former (D281 under A/N: 316737). The thermo-former D281 will be also created in the facility permit.

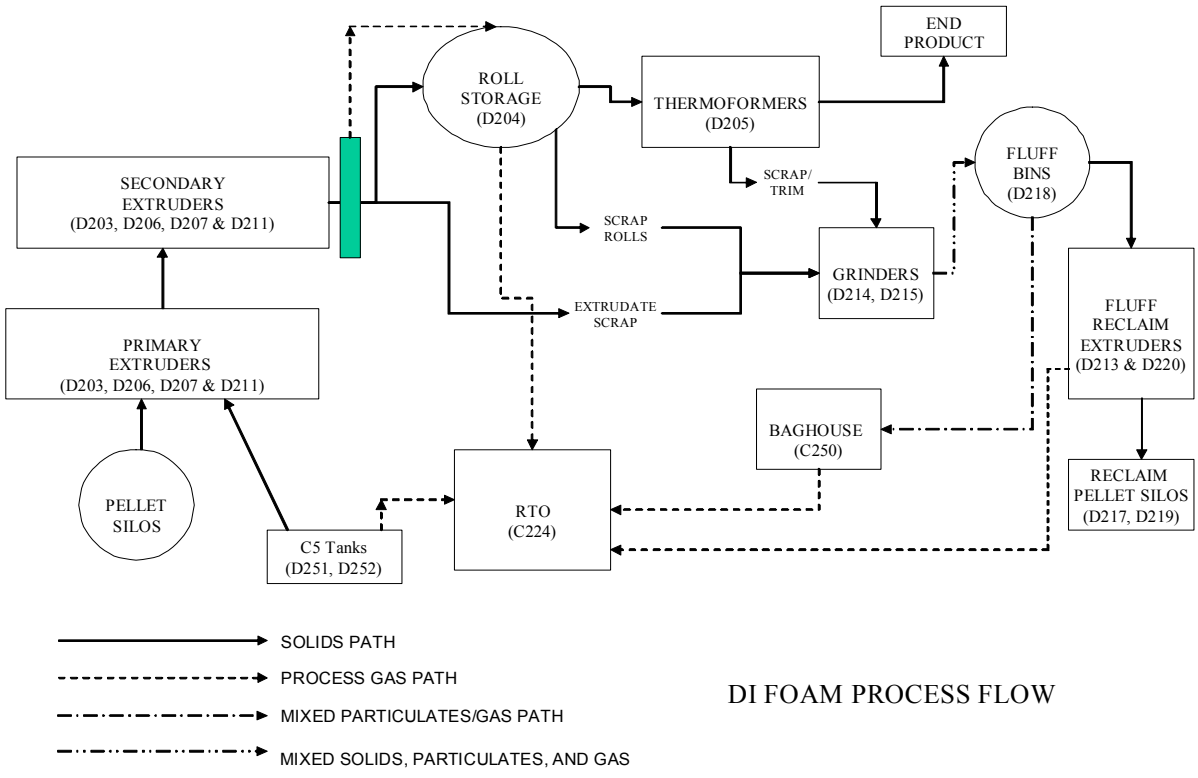
Appl. No. 448885 was submitted on September 21, 2005, as a class-III application for an existing ESP (C285) that controls the PM10 emissions generated from the HIPS lid thermo-former (D282 under A/N: 316737). The thermo-former D282 will be also created in the facility permit.

Appl. No. 450086 was submitted on November 1, 2005, as a plan for the minor revision of the Title-V/Reclaim permit as specified in Rule 301.

PROCESS DESCRIPTION

DI Foam Manufacturing Operation

A process flow diagram for the DI foam manufacturing operation is indicated as follows:



DI FOAM PROCESS FLOW

Emissions

VOC emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Primary and secondary extruders, D203, D206, D207 & D211	During blowing agent expansion and foam sheet forming	Force draft hood and vent tube covering both sides of expanding foam sheet	RTO, C224
Storage/Aging Room, D204	Diffusion during aging process	Enclosed room under vacuum blower	RTO, C224
Scrap/Roll Grinders, D214 & D215	Blowing agent trapped in the closed cells is released	Vacuum blower under the grinder	RTO, C224
Reclaim Extruders, D213 & D220	Blowing agent trapped in the closed cells is released	Extruder vent hole by vacuum blower	RTO, C224
Laminator / Extruder, D275	Extruder die – hot and molten polystyrene	Not collected	Uncontrolled
Underground pressure tanks, D251 & D252	Loading loss	Vapor return line	N/A
	Breathing loss	Pressure relief valve	RTO, C224
	Fugitive emissions via pumps, flanges and connectors, etc	Not collected	Uncontrolled

PM10 emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Scrap/Roll Grinders, D214 & D215	Grinder emissions	Vacuum blower under the grinder	Dust collector, C250
Laminator / Extruder, D275	Extruder die – hot and molten polystyrene	Forced draft hood located over the extruder	ESP, C277

Combustion Emissions:

Emission Equipment	Emission Type and Path	Emission Control Method
RTO, C224	Start-up burner in combustion chamber	Low NOx burner
	Inlet fuel injection	None

DI Foam Manufacturing Operation - Rule 1175 Compliance Issues

Dart performed the source test on April 10, 2002 as required by Condition no. 28-3. The source test results are summarized in a report prepared by Harding ESE, Inc. and dated June 12, 2002. The District M&STE evaluated this report and did not provide a conclusion in their memorandum dated July 31, 2002 (ref. 01326). Instead, the District M&STE recommended "the requestor will have to make his own determinations regarding compliance status with AQMD rules".

During a meeting with Dart on May 21, 2009, it was decided that additional data collection is necessary to demonstrate compliance with Rule 1175. Thus, Dart performed two additional tests on August 21, 2009 and August 26, 2009 to collect the required data. The additional test results obtained during August are combined with the results in 2002, and these results have demonstrated that the DI Foam lines are in compliance with Rule 1175 (see emission calculation section).

There is a wide time frame between the first source test and the District's action to proceed with permit processing. This is because two controversial issues came from the ambiguous phrases in Rule 1175, which are indicated as follows:

1. Should "raw material" include the reclaim polystyrene pellets, and
2. Should Rule 1175(c)(2) apply to the polystyrene foam extrusion process.

The first issue was resolved based a memo issued by the District Counsel, Mr. John Olvera, on February 3, 2006. In this memo, Mr. Olvera concluded the definition of "raw materials" does not specifically exclude recycled polystyrene beads from its meaning". In addition, Mr. Olvera recommended that the Rule be amended to clarify the definition of "raw material," as well as other related provisions, such as Rule 1175(c)(2) in order to facilitate the enforcement of Rule 1175.

The second issue was resolved based on the "Rule Implementation Guidance, Rule 1175 – Control of Emissions from the Manufacturing of Polymeric Cellular (Foam) Products" issued by Mr. Mohsen Nazemi on May 20, 2008. In this Guidance, Mohsen concluded Rule 1175(c)(2) is applicable to polystyrene foam extrusion manufacturing operations.

APPL. NO. 347394 – RTO (C224) – (THIS APPLICATION IS SUPERSEDED BY A/N: 511295)

The oxidizer is a thermal regenerative unit made by Smith Environmental and equipped with an 8 MM Btu/hr natural gas fired start-up burner, a natural gas injection system (7 MMBtu/hr), a 15-HP combustion air blower, and two canisters of heat transfer media. Each canister has two valves, one that connects it to the inlet manifold, and one that connects it to the exhaust manifold. A 250-HP blower provides an induced draft on the oxidizer and exhausts it to atmosphere through a 46-inch diameter stack. The blower is equipped with a static pressure controller to automatically maintain a negative draft on the process equipment. The oxidizer operates at a minimum of 1450^{o}F. The oxidizer design incorporates the two heat exchanger beds connected at the top to the combustion chamber and at the bottom to the inlet and outlet manifolds through a flow reversal valve mechanism. Natural gas is injected at the oxidizer inlet whenever the heat of combustion from the isopentane in the flue gas is insufficient to maintain the temperature set point of the combustion chamber. Flow reversals at about 2 to 4-minute intervals preserve heat and promote thermal efficiency.

APPL. NOS. 347390 AND 347419 – TWO ISO-PENTANE STORAGE TANKS (D251 & D252)

Two underground pressurized storage tanks are dedicated for storing iso-pentane. The capacity of each tank is 35,000 gallons, with dimensions of 11'-10" inside diameter × 42'-2" L. The designed operating pressure is 2.0 psig.

Loading Loss Emissions and Control:
The two underground storage tanks are equipped with a common vapor return line, which routs back the displaced loading vapor back to the rail tank cars.

Breathing Loss Emissions and Control:

Underground storage tanks have negligible breathing loss. In addition, pressurized storage tank reduces breathing loss. Furthermore, the fugitive emissions and the overpressure releases from the pressure relief valve are controlled by the RTO.

Fugitive Emissions:
The two underground pressurized storage tanks shared common liquid lines and vapor lines. The liquid lines have one ball valve, one sight flow indicator, one butterfly valve, and one control valve. The vapor lines have two ball valves, one check valve, and one control valve. The fugitive emissions are not being controlled.

EPS Foam Cup Manufacturing Operation

Dart manufactures foam cups using EPS beads. Expandable polystyrene is comprised of high molecular weight crystal grade polystyrene beads impregnated with pentane as blowing agent. The EPS beads enter the plant in either Gaylords, which are boxes containing one thousand pounds, or in bulk bags holding two thousand pounds. Both types of storage containers have a special liner designed to prevent the blowing agent (n-pentane) from escaping during storage of the EPS beads. The EPS beads are stored in the warehouse until they are needed for production.

Based on the amount of production requirement, the Gaylords or bulk bags are emptied into a dumper. From the dumper, the EPS is quickly conveyed to the blender or directly to a holding tank. When the blenders are used, two Gaylords at a time are often dumped and blended together to obtain a more consistent feed to the process. After being blended, the bead is transported to holding tanks which distribute the bead to the pre-expanders.

In the pre-expander, initial expansion takes place and the density of the pre-puff is controlled. The beads are conveyed into the bottom of the pre-expander while steam is injected to control the temperature and the expansion rate. As the beads are heated, they expand to a specified density that satisfies container specifications required by customers. The expanded low-density foam particles are generally referred to as pre-puffs. The pre-puffs from the pre-expander are dumped into a collection and drying device referred to as “tin man”. After making their way through the tin man, they are carried to the screen. At the screen, oversized and undersized particles are removed from the process and the pre-puffs that meet the particle size specification are sent to holding bags near the cup presses to await their use in the molding process. If the VOC content of the pre-puffs exceeds 2.4 percent, then the pre-puffs are transferred to a heated room where the emissions are captured and sent to the boiler for destruction until the VOC content of the pre-puffs are below 2.4 percent.

The cup molding press pulls the beads it needs for each cycle from the holding bags. At the press, the beads are put into the molds which are then heated causing the beads to soften and expand again. Since the beads are now in an enclosed area, the beads fuse together as they expand taking on the shape of the mold. The mold is then cooled to set the EPS in a permanent shape. The mold opens and the cups or containers are removed for inspection. The acceptable cups then go to either the packaging or the printing department. This cycle is repeated continuously. After final packaging, the cartons of cups are sent to the warehouse to await shipment to the customers.

Pentane emissions are generated throughout the cup/container manufacturing process. The majority of these emissions occur whenever heat is introduced to the process. A mass balance approach is used to determine EPS container manufacturing process emissions.

Some of the cups manufactured on the presses are printed with customer logos and designs. UV curable ink will be for this printing. The cups are passed through a dry offset printing press which applies the UV curable ink and then run under UV lights to cure. After curing, the cups are packaged and sent to the warehouse to await shipment to the customer.

Emissions

VOC emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System	
		Emission Collection Method	Control Equipment
Foam Expansion Equipment, D5, D6, D7, D8, D9, D10, D111, D112, D113, D114, D115 & D116	Impregnated blowing agent expansion	Enclosed room under vacuum blowers	4 boiler/afterburners D180, D181, D182, D254
Pre-puff conveyors D12, D13, D14, D15, D117, D118, D119, D120 & D121	Continued blowing agent expansion	Enclosed room under vacuum blowers	4 boiler/afterburners D180, D181, D182, D254
Bins D16, D17, C18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30 and D31	Continued blowing agent expansion	Enclosed room under vacuum blowers	4 boiler/afterburners D180, D181, D182, D254
Aging Room D70	Continued blowing agent expansion during aging period	Enclosed room, D70, under vacuum blowers	4 boiler/afterburners D180, D181, D182, D254
Aging Room D71	Continued blowing agent expansion during aging period	Enclosed room, D71, under vacuum blowers	4 boiler/afterburners D180, D181, D182, D254
Compression Molding Equipment D106	Continued blowing agent expansion	No emission collection	No emission control equipment
UV printing equipment cleaning (exempt equipment)	Clean up solvent (isopropyl alcohol)	No emission collection	No emission control equipment

Combustion Emissions:

Emission Equipment	Emission Type and Path	Emission Control Method
Boiler D180	Burner	Low NOx burner
Boiler D181	Burner	Low NOx burner
Boiler D182	Burner	Low NOx burner
Boiler D254	Burner	Low NOx burner

Rule 1175 Compliance Issues

Dart had a source test performed on April 9, 2008 as required by Condition no. 28-4 (Source Test once every five years). The source test results are summarized in a report dated June 5, 2008. The report was approved by the District M&STE on February 11, 2009 (Ref: 06060). The test results have demonstrated the EPS Foam manufacturing operation is in compliance with Rule 1175.

APPL. NO. 389113 – BOILER NO. 4 (D254)

Boiler No. 4 was added to operate continuously to complement the three other existing boilers to meet production demands. This boiler generates approximately 24,000 pounds of steam per hour and is used

indirectly to expand the polystyrene beads in their cup manufacturing process. It also functions as VOC control equipment for the EPS pre-expansion and pre-puff aging operations.

Source Tests for NOX and CO

Dart performed the source tests on this boiler on January 15, 2002 and on May 20, 2008. The source test in 2002 was performed as required by Condition no. 28-5. The source test in 2008 was performed as required by the RECLAIM program. Both tests have demonstrated the boiler is operating in compliance with the NOX and CO emission limits (NOX: 9ppm, CO: 50ppm). The source test report for the 2002 test was approved by the District M&STE on April 20, 2004 (Ref: PR 01305). The source test report for the 2008 test was approved by the District M&STE on October 2, 2008 (Ref: 08123).

OPS Manufacturing Operation

Please refer to P/C evaluation for process description.

Emissions

VOC emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Extruder D226	Polystyrene sheet forming	Not collected	Uncontrolled
Reclaim extruder D238	Molten plastic extruded into water	Not collected	Uncontrolled

PM10 emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Scrap Grinders, D236	Grinder emissions	Vacuum blower under the grinder	Dust collector, C279
Extruder D226	Extruder die – hot and molten polystyrene	Forced draft hood located over the extruder	ESP, C244
Reclaim extruder D238	Extruder die – hot and molten polystyrene	Forced draft hood located over the extruder	ESP, C278

Combustion Emissions:

Emission Equipment	Emission Type and Path	Emission Control Method
Oven D227	Burner	N/A

APPL. NO. 347376 – PROCESS 10 SYSTEM 1 - OPS PROCESSING (THIS APPLICATION IS SUPERSEDED BY A/N: 511293)

Please refer to P/C evaluation and application no. 511293 for process description.

APPL. NO. 347392 –ELECTROSTATIC PRECIPITATOR, C244

Minor VOC and PM10 emissions (styrene mists) are expected to be generated during the extrusion when

polystyrene pellets were heated and molten. The resulting VOC and PM10 emissions are vented through a force draft hood located over the extruder and pass through the electrostatic precipitator, C244, before venting to the atmosphere. The mists are collected into a bucket and disposed by a certified contractor.

APPL. NOS. 347396 & 347399 – PROCESS 10 SYSTEM 2 – OPS AND HIPS RECLAIM PROCESSING

The polystyrene reclaim and recycle process consists of scrap plastic size reduction and reclaim extrusion, and repelletizing operations. Scrap polystyrene materials including side trimmings from sheets, defect polystyrene sheets and "cut out" from thermoforming process, are grounded into flakes by the grinders (D236). The flakes are pneumatically conveyed to a storage bin (D237), which is controlled by a dust collector (C279, new). From the storage bin (D237), the flakes are once again pneumatically conveyed to a hopper; then transferred to the reclaim extruder (D238) by a screw conveyor. The polystyrene flakes are melted in the extruder (D238), cut into pellet forms (pelletizer, D239), and then the pellets are conveyed pneumatically to the storage (D219). The PM10 emissions from the reclaim extruder (D238) are controlled by an electrostatic precipitator (C278, new).

APPL. NO. 393801 – EXISTING DUST COLLECTOR, C279

PM emissions are generated when polystyrene sheets/straps were grounded by the grinders. Each grinder is equipped with a blower to evacuate the air and ground plastic flakes from the grinder. The flakes are pneumatically conveyed via a closed system to the storage bins which are vented to this dust collector.

APPL. NO. 448881 – ELECTROSTATIC PRECIPITATOR, C278

Mists composed of styrene in water vapor are formed at the extruder quench vent. The mist emissions are formed when the hot, extruded polystyrene strands from the stranding die plate contact the cold water in the quenching bath. The resulting stream of steam with styrene is vented through a force draft hood located over the water bath and pass through electrostatic precipitator, C278, before venting to the atmosphere. The styrene/water liquid is collected in a bucket and disposed by a certified contractor.

HIPS Manufacturing Operation

For detail process description of the HIPS Manufacturing Operation, please refer to application nos. 234905 and 317637.

In order to better describe the process, three thermoforming lines (D280, D281 and D282) are administratively added under application no. 316737 for the three existing PM10 emission control equipment. The PM10 emissions from the thermoform ovens are controlled by three existing electrostatic precipitators (C283, C284 and C285).

Emissions

VOC emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Extruder D178	Polystyrene sheet forming	Not collected	Uncontrolled
Extruder D194	Polystyrene sheet forming	Not collected	Uncontrolled

PM10 emission points and control equipment:

Emission Equipment	Emission Type and Path	APC System Emission Collection Method	Control Equipment
Extruder D178	Polystyrene sheet forming	Forced draft hood located over the extruder	ESP, C179
Extruder D194	Polystyrene sheet forming	Forced draft hood located over the extruder	ESP, C195
Thermoforming Oven D280	Thermo softening extruded polystyrene sheet	Forced draft hood located over the thermoforming oven	ESP, C283
Thermoforming Oven D281	Thermo softening extruded polystyrene sheet	Forced draft hood located over the thermoforming oven	ESP, C284
Thermoforming Oven D282	Thermo softening extruded polystyrene sheet	Forced draft hood located over the thermoforming oven	ESP, C285

APPL. NOS. 448883, -84 & -85 – EXISTING ELECTROSTATIC PRECIPITATORS, C283, C284 & C285

Minor PM10 emissions are expected to be generated when HIPS sheets were heated and soften in the electrical ovens. The resulting PM10 emissions are vented through a force draft hood located over each oven and pass through an electrostatic precipitator, (C283, or C284, or C285), before venting to the atmosphere. Ventilation hoods are used to remove potentially irritating gases, vapors and smoke should a burnout take place. The mists are collected into a bucket and disposed by a certified contractor.

The above picture is obtained from OSHA website http://www.osha.gov/dcsp/products/etools/machineguarding/plastics/thermoform_machine.html#heating_oven.

Emergency Internal Combustion Engine

APPLICATION NO. 347491 AND SUBSEQUENT APPLICATION 448879 – EMERGENCY ICE (D253)

This engine is a standby engine to be used during an emergency to generate electricity. The equipment is under the USEPA list of approved non-road portable ICE. It is also pre-certified AQMD equipment, meets BACT/LAER. This is a 100 H.P. four cylinder turbocharged diesel fired engine was pre-certified in February 1999.

The following emission factors are obtained from the District Equipment Certification / Registration Program under A/N: 320202.

	VOC	NOX	SOX	CO	PM
g/BHP-hr	0.20	8.51	0.184*	0.23	0.06

Since the diesel PM emissions are less than 0.15 g/BHP-hr, this engine is allowed up to 50 annual hours of operation for maintenance and testing purposes per Rule 1470(c)(3)(C)(ii)(I).

EMISSION CALCULATIONS

This facility operates 24 hrs/day, 7 days/wk, and 52 wks/yr.

DI Foam Manufacturing Operation

Eleven applications are under this operation, and they are indicated as follows:

Equipment Description		Process No.	System No.	Device ID	Appl. No.	Evaluation Type
DI foam extrusion, storage and thermo-forming	Line 1	8	1	D207, D275, D204, D205	347409	PO to PC
	Line 2			D206, D204, D205	347407	PO to PC
	Line 3			D203, D204, D205	347406	PO to PC
	Line 4			D211, D204, D205	347415	PO to PC
DI foam reclaim process – grinding, fluff storage, extrusion/re-pelletizing and pellet storage	Line 1	8	2	D214, D215, D218, D213, D216, D217, D219	347384	PO to PC
	Line 2			D214, D215, D218, D220, D221, D217, D219	347385	PO to PC
Baghouse		9	1	C250	347486	PO to PC
RTO		9	2	C224	347394	PO to PC
ESP		9	3	C277	393798	PO no PC
Iso-pentane Storage Tank		12	-	D251	347390	PO to PC
Iso-pentane Storage Tank		12	-	D252	347419	PO to PC

Rule 1175 Compliance Calculation

The source test performed on June 4, 2002 shows the following results

- RTO destruction efficiency = 98.2%

In addition, two tests performed on August 21, 2009 and August 26, 2009 showed the following results:

Roll #	Charge Rate (lbs C5/ 100 lbs Polystyrene)	End of Extrusion (lbs C5/ 100 lbs Polystyrene)	After 5 days Storage/Aging (lbs C5/ 100 lbs Polystyrene)	Final Product (lbs C5/ 100 lbs Polystyrene)
1	4.11	3.20	3.16	3.20
2	4.10	3.09	2.93	3.06
3	3.55	2.84	2.83	2.52
4	3.68	2.56	2.63	2.72
5	3.52	2.82	2.75	2.35
Average	3.79	2.90	2.86	2.77

Assumptions:

1. VOC collection efficiency = 90% at primary extruders, grinders, fluff silos and reclaim extruders
2. 100% emission collection efficiency in the roll storage room
3. Based on 2007 actual production data, the average edge trim recycle rate is 29% and the average scrap roll recycle rate is 11%. Therefore, 60% polystyrene foam rolls will become final products.

Rule 1175(c)(2) compliance calculation is indicated below:

Emission Point	**lb C_5 emission per 100 lb polystyrene**	**lb C_5 collection per 100 lb polystyrene**	**lb C_5 destroyed by RTO per 100 lb polystyrene**
Primary Extrusion	3.79 – 2.90 = 0.89	× 90% = 0.801	× 98.2% = 0.787
Roll Storage - Aging	2.90 – 2.86 = 0.04	× 100% = 0.04	× 98.2% = 0.0393
Thermoforming	2.86 – 2.77 = 0.09	No collection	No destruction
Product Emissions (60% rolls become products)	(2.77) (60%) = 1.662	No collection	No destruction
Grind, Fluff & Reclaim Extrusion (11% scrap rolls recycled)	(2.86) (11%) = 0.315	× 90% = 0.283	× 98.2% = 0.278
Grind, Fluff & Reclaim Extrusion (29% edge trims recycled)	(2.77) (29%) = 0.803	× 90% = 0.723	× 98.2% = 0.710

Rule 1175 Compliance Determination: (3.79 – 0.787 – 0.039 – 0.278 – 0.710) lb / (100 lb polystyrene + 3.79 lb iso-pentane) = **1.90 C_5 Emission / 100 lb Raw Materials < 2.4, Compliance with rule 1175!**

Emission Factor Re-determination

Giving the fact of that the process conditions such as temperatures and/or locations of the equipment will not be changed, the iso-pentane off-gassing rate during extrusion or aging process is assumed to be direct proportion to the iso-pentane concentration at one time. Therefore, assume:

$$\frac{dC}{dt} = kC$$

Where: C = iso-pentane Concentration
t = time
k = constant

Then:
$$\int dt = k\int \frac{dC}{C}$$

$$\Delta t = k\int_{C_0}^{C_1} \frac{dC}{C}$$

Since the process time, Δt, for the extrusion is almost never changed, and the average aging period is 5 days, I will safely assume Δt is a constant, and:

$$\int_{C_{pre-extrusion}}^{C_{post-extrusion}} \frac{dC}{C} = K_1 \quad \text{and} \quad \int_{C_{pre-aging}}^{C_{post-aging}} \frac{dC}{C} = K_2$$

$$Ln\left(C_{pre-extrusion}\right) - Ln\left(C_{post-extrusion}\right) = k_1 \quad \text{and} \quad Ln\left(C_{pre-aging}\right) - Ln\left(C_{post-aging}\right) = k_2$$

Using the test results obtained on August 21, 2009 and August 26, 2009, then $k_1 = 0.244$ and $k_2 = 0.050$

$$C_{post-extrusion} = e^{Ln\left(C_{pre-extrusion}\right)-0.244} \quad \text{..... Equation 1}$$

$$C_{product} = e^{Ln\left(C_{post-extrusion}\right)-0.050} \quad \text{..... Equation 2}$$

Where:
$C_{pre\text{-}extrusion}$= lb iso-pentane / 100 lb polystyrene injected into the primary extruder
$C_{post\text{-}extrusion}$= lb iso-pentane / 100 lb polystyrene in polystyrene foam sheet produced from the extruder
$C_{product}$ = lb iso-pentane / 100 lb polystyrene in product or the sheets after 5-day aging period

Initial Concentration = 4.50%	Condition No. B61.1
$C_{pre\text{-}extrusion}$ = 4.712 lb C_5 / 100 lb polystyrene	Conversion

$C_{post\text{-}extrusion}$ =	3.691 lb C_5 / 100 lb polystyrene	Equation 1
Extrusion Emissions =	1.021 lb C_5 / 100 lb polystyrene	$C_{pre\text{-}extrusion}$ - $C_{post\text{-}extrusion}$
Finished product	3.510 lb C_5 / 100 lb polystyrene	Equation 2
Aging Process Emissions =	0.181 lb C_5 / 100 lb polystyrene	$C_{post\text{-}extrusion} - C_{product}$
Useful life of product =	1.90%	See P/C evaluation
Product End Life=	1.937 lb C_5 / 100 lb polystyrene	Conversion

Assumptions:

1. VOC collection efficiency = 90% at primary extruders, grinders, fluff silos and reclaim extruders
2. 100% emission collection efficiency in the roll storage room
3. VOC destruction efficiency by RTO = 95%

The new VOC emission factor for DI foam manufacturing operation is calculated below:

Emission Point	lb C_5 emission per 100 lb polystyrene	lb C_5 collection per 100 lb polystyrene	lb C_5 destroyed by RTO per 100 lb polystyrene
Primary Extrusion	1.021	× 90% = 0.919	× 95% = 0.873
Roll Storage - Aging	0.181	× 100% = 0.181	× 95% = 0.172
Grind, Fluff & Reclaim Extrusion (40% rolls recycled)	(3.510) (40%) = 1.404	× 90% = 1.264	× 95% = 1.200
60% rolls, which become product with end life 1.90% iso-pentane, are not counted as NSR entry, thus (60%) (1.937) = 1.162 lb C_5 emissions / 100 lb polystyrene			

Emission Factor: (4.712 – 0.873 – 0.172 – 1.20 – 1.162) lb C_5 emissions / (100 + 3.510) rolls produced
= **0.01258 C_5 emission / lb rolls produced after extrusion**

Condition No. F16.1 will be revised to reflect new emission factor!

VOC Emissions as Blowing Agent

Each of the four primary extruders can process maximum 1,000 lb/hr (Condition C1.4). Therefore, the VOC PTE for the DI foam manufacturing operation is calculated as:

R1 = (1,000 lb/hr × 4) (0.04712 lb/lb – 0.01162 lb/lb end life) = 142 lbs/hr, or 3,408 lb/day
R2 = (1,000 lb/hr × 4) (0.01258 lb/lb) = 50.32 lbs/hr, or 1,207.68 lb/day

The VOC emissions as blowing agent are summarized as follows:

Equipment Description		Device ID	Appl. No.	R1 (lbs/hr)	R2 (lbs/hr)
DI foam extrusion, storage and thermo-forming	Line 1	D207, D275, D204, D205	347409	35.5	12.58
	Line 2	D206, D204, D205	347407	35.5	12.58
	Line 3	D203, D204, D205	347406	35.5	12.58
	Line 4	D211, D204, D205	347415	35.5	12.58
DI foam reclaim process – grinding, fluff storage, extrusion/re-pelletizing and pellet storage	Line 1	D214, D215, D218, D213, D216, D217, D219	347384	0	0
	Line 2	D214, D215, D218, D220, D221, D217, D219	347385	0	0
			Total:	**142**	**50.32**

APPL. NOS. 347407, 347406 & 347415 – DI FOAM EXTRUSION LINE 2 THROUGH 4

Emission Summary:

A/N: 347407 - Line 2		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
VOC	R1	35.50	852.00	310,128	852.00	852
	R2	12.58	301.92	109,899	301.92	302

A/N: 347406 - Line 3		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
VOC	R1	35.50	852.00	310,128	852.00	852
	R2	12.58	301.92	109,899	301.92	302

A/N: 347415 - Line 4		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
VOC	R1	35.50	852.00	310,128	852.00	852
	R2	12.58	301.92	109,899	301.92	302

APPL. NO. 347409 – DI FOAM EXTRUSION LINE 1

PM10 and VOC Emissions from the existing laminator (D275)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr
Laminator (D275) process rate = 600 lb/hr, or 14400 lb/day

Emission Factors

Product/Process	Pollutants	Emission Factor (lb/ton plastic)
Plastic Extruder[1]	PM	0.0958
	VOC	0.0706

Note:

1. Emission Factors were obtained from an Emission Calculation Fact Sheet from Michigan Department of Environmental Quality (FACT SHEET #9847, Rev 11/05).

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
ESP (C277) collection efficiency = 75%

PM10 emissions from D275:
R1 = (600 lb/hr) (0.0958 lb/ton) / (2,000 lb/ton) = 0.0287 lb/hr, or 0.69 lb/day
R2 = (0.0287 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.00933 lb/hr, or 0.224 lb/day

VOC emissions from D275:

R1=R2 = (600 lb/hr) (0.0706 lb/ton) / (2,000 lb/ton) = 0.021 lb/hr, or 0.508 lb/day

VOC emissions for A/N: 347409:
R1= (35.5 lb/hr) + (0.021 lb/hr) = 35.521 lb/hr, or 302.42 lb/day
R2 = (12.58 lb/hr) + (0.021 lb/hr) = 12.601 lb/hr, or 302.42 lb/day

Emission Summary:

A/N: 347409 - Line 1		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
VOC	R1	35.521	852.50	310,311	852.50	853
	R2	12.601	302.42	110,082	302.42	302
PM10	R1	0.029	0.69	251	0.69	1
	R2	0.009	0.22	81	0.22	0

APPL. NO. 393798 – EXISTING ELECTROSTATIC PRECIPITATOR (C277)

Data

# of ducts: 108
Plate spacing: 0.36 inches
Charge Surface Area: 34,560 in^2
Voltage: 460 Volts
Exhaust Blower Capacity: 2600 cfm

The drift velocity is assumed to be: w = 0.25 ft/sec

Calculation

The plate area of each duct: A = (34,560 in^2) / 108 = 320 in^2 = 2.22 ft^2
The flow rate per duct: Q = (2,600 ft^3/min) / 108 /60 = 0.401 ft^3/sec

Control efficiency:

$$\eta = 1 - e^{-w\frac{A_p}{Q}}$$

$$\eta = 1 - e^{-0.25\frac{2.22}{0.401}}$$

$\eta = 0.75$

RULE 404 CALCULATIONS:

PM concentration = (0.00933 lb/hr) (7,000 grains/lb) / (60 min/hr) / (2,600 ft^3/min) = 0.000419 grains/ft^3

APPL. NOS. 347384 AND 347385 – DI FOAM RECLAIM LINES 1 & 2

Operation: 24 hrs/day, 5 days/wk, and 52 wks/yr
Throughput (Max.): 2,400 lbs/hr*, 57,600 lb/day

* Based on an email from Mr. Lee Markley on April 15, 2009, the maximum throughput of each of the two DI Foam reclaim extruders is 1,200 lbs/hr, for a total of 2,400 lbs/hr for the two extruders.

PM10 Emissions from Grinders (D214 and D215)

Assumption:
PM Emission Factor: 1.00 lbs PM/1,000 lb Ground Plastic (default)
PM10 = 50% PM
Dust Collector (C250) control efficiency = 99%

PM10 Emissions
R1 = (2,400 lb/hr) (1.00 lbs PM/1,000 lb) (50%) = 1.2 lbs/hr, or 28.8 lb/day
R2 = (1.2 lbs/hr) (1 – 99%) = 0.012 lb/hr, or 0.29 lb/day

Since the grinders (D214 and D215) are common with DI Foam Reclaim Lines 1 and 2, the PM10 emissions will be equally shared by A/N: 347384 and A/N 347385.

Grinder PM10 Emissions for each DI Foam Reclaim Line
R1 = (1.2 lbs/hr) (50%) = 0.6 lbs/hr, or 14.4 lb/day
R2 = (0.6 lbs/hr) (1 – 99%) = 0.006 lb/hr, or 0.144 lb/day

VOC Emissions from the DI Foam Grinders and Reclaim Extruders (D213, D214, D215 and D220)

The VOC emissions from the DI Foam reclaim lines are already factored into the entire DI Foam process emission factor; thus, the NSR values will not be entered to prevent the duplication of the emissions. See Section VOC Emissions As Blowing Agent above.

A/N: 347384 - Foam Reclaim Line 1		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	0.66	15.78	5,744	15.78	16
	R2	0.014	0.34	125	0.34	0
VOC	R1 = R2	0.00	0.00	0	0.00	0

A/N: 347385 - Foam Reclaim Line 2		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	0.66	15.78	5,744	15.78	16
	R2	0.014	0.34	125	0.34	0
VOC	R1 = R2	0.00	0.00	0	0.00	0

APPL. NO. 347486 – BAGHOUSE (C250)

Baghouse Air to Cloth ratio:

Baghouse Type: Pulse Jet
Baghhouse exhaust blower flowrate = 15,900 cfm
Total filter area = 8,128 ft^2 (Tier 3 baghouse)

Baghouse Air to Cloth (A/C) ratio = (15,900 cfm) / (8,128 ft^2) = 1.956 fpm

A baghouse with pulse jets can operate at A/C ratio up to 12 fpm.

APPL. NO. 347394 – RTO (C224)

Combustion Emissions

RTO, C224, (Main burner and fuel injection)

Emission Factors

Emission $_{\mathbf{ROG,\ SOX,\ PM10}}$ (lb/MMBtu) = $EF_{ROG,SOX,PM10}\left(\frac{lb}{MMscf}\right) x \frac{1MMscf}{1050MMBtu}$

Emission Factor Summary - Natural Gas

Pollutant	Emission Factor (AQMD Default) lb/mmscf	Emission Factor (for this report) lb/MMBtu
VOC	7	0.00667
SOx	0.6	0.000571
PM10	7.5	0.00714
NOx	Not Applicable - Will be monitored under the RECLAIM Program	
CO	35	0.03333

AQMD Default emission factors were taken from "General Instruction Book for the AQMD 2007-2008 Annual Emission Reporting Program", Appendix A- Table 1):

Burner rating: 8 MMBTU/hr
Operating Schedule: 24 hrs/day; 7 days/week; 52 weeks/yr

The calculated emission results are indicated below:

RTO (C224) Combustion Emission Summary

A/N 347394		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30 day NSR (lbs/day)
R1=R2	VOC	0.053	1.28	466.2	1.28	1
R1=R2	SOx	0.005	0.11	39.9	0.11	0
R1=R2	PM10	0.057	1.37	499.0	1.37	1
R1=R2	CO	0.267	6.40	2329.4	6.40	6

APPL. NOS. 347390 AND 347419 – ISO-PENTANE STORAGE TANKS (D251 & D252)

The following calculation is for each Iso-Pentane Storage Tank.

Data:

Operating Schedule:	24 hr/day, 7 days/wk, 52 wks/yr
Throughput (Avg.):	1 turnover/month
Storage Material:	Iso-Pentane
Tank Capacity:	35,000 gallons
Tank Operating Pressure:	2 psig

Emission Type	Emission Control Equipment
Loading Loss:	Vapor Return Line (rout displaced vapor back into rail tank cars)
Standing Storage Loss:	Pressure Tank, Underground, and PRV, and the rupture of PRV is vented to the RTO
Fugitive Emission:	Only the fugitive emissions from the PRV are controlled by the RTO. Fugitive emissions from other connectors and flanges are uncontrolled.

Loading Loss

Q = volume of material loaded (35,000 gallons/month)
S = 0.6 (Submerged loading: dedicated normal service)
T = 65 ^{o}F, 524.67 ^{o}R

$$E_{Loading}, lb/day = (12.46)\frac{(S)(P_x)(M_x)(Q)}{T}$$

Where:

S = saturation factor (dimensionless; obtained from Table 5.2-1 in AP-42)
= 0.6 (Submerged loading: dedicated normal service)

P_x = partial vapor pressure of the VOC species x loaded at temperature T (psia)
= $x_x \times VP_x$, where: x_x = liquid mole fraction of VOC species x (mole/mole)

VP_x = true vapor pressure of VOC species x (psia)

M_x = molecular weight of VOC species x (lb/lb-mole)
Q = volume of material loaded (1,000 gal/day)
T = temperature of liquid loaded (^{o}R).

Assumptions:

- 99% control efficiency for the vapor balance system

The loading losses are calculated using the equation above, and the results are indicated as follows:

Pollutant	M_x lb/lb-mole	P_x psi	Q gal/month	$E_{loading}$ lbs/month	$E_{loading}$ lbs/day	Controlled $E_{loading}$ lbs/day
VOC	72.15	10.45	35,000	376.01	12.534	0.13

Standing Storage Loss

There are no standing storage losses expected from pressurized underground storage tanks.

Fugitive Emissions

Data:

Source Unit	Service	No. of Components Installed	Any Emission Control?
Connectors	All	24	No

The fugitive emissions are calculated using emission factors from AP42, and the results are indicated as follows:

Source Unit	Service	No. of New Components	Emission Factor	Uncontrolled Emission (lbs/year)	Controlled Emission (lbs/year)	Controlled Emission (lbs/day)
Connectors	All	24	2.86	68.64	68.64	0.188
Total Emissions:				68.64	68.64	0.19

VOC Emission Summary:
The emissions will be the same as the P/C calculation, as indicated as follows:

A/N 347390		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
VOC	R1	0.53	12.72	4,631.5	12.72	13
	R2	0.01	0.32	116.5	0.32	0

Note: Daily emissions = Daily Loading Loss + Daily Fugitive Emissions

A/N 347419		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
VOC	R1	0.53	12.72	4,631.5	12.72	13
	R2	0.01	0.22	80.1	0.22	0

Note: Daily emissions = Daily Loading Loss + Daily Fugitive Emissions

EPS Foam Cup Manufacturing Operation

Six applications are under this operation, and they are indicated as follows:

Equipment Description		Process No.	System No.	Device ID	Appl. No.	Evaluation Type
Polystyrene Foam Cup Manufacturing	Line 1	1	1, 2	Process 1, Systems 1 & 2	316738	N/A
	Line 2		2,3	Process 1, Systems 2 & 3	280815	N/A
Boiler/afterburner (23.104 MMBtu/hr)		3	-	D180	316735	N/A
Boiler/afterburner (23.104 MMBtu/hr)			-	D181	316734	N/A
Boiler/afterburner (23.104 MMBtu/hr)			-	D182	362217	N/A
Boiler No. 4 (29 MMBtu/hr), Boiler/afterburner			-	D254	389113	PC to PO

This evaluation report only involves the evaluation of A/N 389113 listed above. However, it is also necessary to discuss the following issues of this operation:

- Rule 1175 Compliance Determination
- Summary of VOC emissions for the facility-wide emission cap

Rule 1175 Compliance Determination

Dart had a source test performed on April 9, 2008 as required by Condition no. 28-4 (Source Test once every five years). The source test results are summarized in a report dated June 5, 2008. The report was approved by the District M&STE on February 11, 2009 (Ref: 06060). The test results have demonstrated the EPS Foam manufacturing operation is in compliance with Rule 1175.

Summary of VOC emissions as blowing agent from A/N 316738 and A/N 280815

Data

Production level: 25,185 TPY, or 138,000 lb/day
Pentane content of EPS raw material (Max.): 5.75%
Emission factor (Cond. No. F16.1): 0.00804 lb/lb raw beads

R1 = (138,000 lb/day) (5.75%) = 7,935 lb/day
R2 = (138,000 lb/day) (0.00804 lb/lb) = 1,109.52 lb/day

Although these two lines are not subject to this evaluation, the following emission summaries will be used to update the NSR data base.

Blowing Agent Emission Summary:

The VOC emissions as blowing agent are summarized as follows:

Equipment Description		Device ID	Appl. No.	R1 (lbs/hr)	R2 (lbs/hr)
Polystyrene Foam Cup Manufacturing	Line 1	Process 1, Systems 1 & 2	316738	3,967.5	554.76
	Line 2	Process 1, Systems 2 & 3	280815	3,967.5	554.76
			Total:	**7,935**	**1,109.52**

Note: the two lines are assumed to share the throughput equally.

APPL. NO. 389113 – BOILER NO. 4 (D254)

Dart performed the source tests on this boiler on January 15, 2002 and on May 20, 2008. The source test in 2002 was performed as required by Condition no. 28-5. The source test in 2008 was performed as required by the RECLAIM program. Both tests have demonstrated the boiler is operating in compliance with the NOX and CO emission limits (NOX: 9ppm, CO: 50ppm).

Boiler combustion emissions calculation is the same as the P/C evaluation.

A/N 389113 - Boiler No. 4		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
R1=R2	VOC	0.15	3.60	1310.4	3.60	4
R1=R2	SOx	0.016	0.384	139.8	0.38	0
R1=R2	PM10	0.21	5.04	1834.6	5.04	5
R1=R2	NOx	0.32	7.68	2795.5	7.68	8
R1=R2	CO	0.93	22.32	8124.5	22.32	22

EMISSION SUMMARIES FOR OTHER THREE BOILERS/AFTERBURNERS:

The three boilers' combustion emissions are obtained from their P/O evaluations, and the emissions are summarized as follows:

A/N 316735 - D180		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
R1=R2	VOC	0.06	1.48	538.72	1.48	1
R1=R2	SOx	0.01	0.32	116.48	0.32	0
R1=R2	PM10	0.11	2.64	960.96	2.64	3
R1=R2	NOx	0.84	20.07	7,305.48	20.07	20
R1=R2	CO	0.44	10.56	3,843.84	10.56	11

A/N 316734 - D181		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
R1=R2	VOC	0.06	1.48	538.72	1.48	1
R1=R2	SOx	0.01	0.32	116.48	0.32	0
R1=R2	PM10	0.11	2.64	960.96	2.64	3
R1=R2	NOx	0.84	20.07	7,305.48	20.07	20
R1=R2	CO	0.44	10.56	3,843.84	10.56	11

A/N 362217 - D182		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
R1=R2	VOC	0.06	1.48	538.72	1.48	1
R1=R2	SOx	0.01	0.32	116.48	0.32	0
R1=R2	PM10	0.11	2.64	960.96	2.64	3
R1=R2	NOx	0.84	20.07	7,305.48	20.07	20
R1=R2	CO	0.44	10.56	3,843.84	10.56	11

OPS Manufacturing Operation

Six applications are under this operation, and they are indicated as follows:

Equipment Description	Process No.	System No.	Device ID	Appl. No.	Evaluation Type
OPS Processing Line 1	10	1	D226, D227, D229	347376	PO to PC
OPS and HIPS Reclaim Grinding, Conveying, and Storage	10	2	D236, D237	347396	PO to PC
Polystyrene Reclaim Extrusion Line	10	2	D219, D238	347399	PO to PC
ESP	11	-	C244	347392	PO to PC
Baghouse, 2,880 ft^2	11	-	C279	393801	PO no PC
ESP	11	-	C278	448881	PO no PC

APPL. NO. 347376 – OPS PROCESSING LINE 1

PM10 and VOC Emissions from the extruder (D226)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr
Extruder (D226) process rate = 5,400 lb/hr, or 64.8 tons/day

Emission Factors

Product/Process	Pollutants	Emission Factor (lb/ton plastic)
Plastic Extruder[1]	PM	0.0958
	VOC	0.0706

Note:

1. Emission Factors were obtained from an Emission Calculation Fact Sheet from Michigan Department of Environmental Quality (FACT SHEET #9847, Rev 11/05).

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
ESP (C244) collection efficiency = 75%

PM10 emissions from D226:
R1 = (5,400 lb/hr) (0.0958 lb/ton) / (2,000 lb/ton) = 0.259 lb/hr, or 6.21 lb/day
R2 = (0.259 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.08418 lb/hr, or 2.02 lb/day

VOC emissions from D226:
R1=R2 = (5,400 lb/hr) (0.0706 lb/ton) / (2,000 lb/ton) = 0.1906 lb/hr, or 4.57 lb/day

Combustion Emissions from the oven (D227)

This oven is natural gas fired at a rate of 4.2 MMBtu/hr, and it is used to keep OPS sheet temperature at 220 to 320 deg. F to allow orientation of the polystyrene molecules.

Emission Factors

Emission $_{\mathbf{ROG,\ SOX,\ PM10}}$ (lb/MMBtu) = $EF_{ROG,SOX,PM10}\left(\frac{lb}{MMscf}\right) x \frac{1MMscf}{1050MMBtu}$

Emission Factor Summary - Natural Gas

Pollutant	Emission Factor (AQMD Default) lb/mmscf	Emission Factor (for this report) lb/MMBtu
VOC	7	0.00667
SOx	0.6	0.000571
PM10	7.5	0.00714
NOx	Not Applicable - Will be monitored under the RECLAIM Program	
CO	35	0.03333

AQMD Default emission factors were taken from "General Instruction Book for the AQMD 2007-2008 Annual Emission Reporting Program", Appendix A- Table 1):

Burner rating: 4.2 MMBTU/hr
Operating Schedule: 24 hrs/day; 7 days/week; 52 weeks/yr

The calculated emission results are indicated below:

Oven (D227) Combustion Emission Summary

		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30 day NSR (lbs/day)
R1=R2	**VOC**	0.028	0.67	244.7	0.67	1
R1=R2	**SOx**	0.002	0.06	21.0	0.06	0
R1=R2	**PM10**	0.030	0.72	262.0	0.72	1
R1=R2	**CO**	0.140	3.36	1222.9	3.36	3

Emission Summary:

PM10 emissions:
R1 = $R1_{\text{Extruder D226}}$ + $R1_{\text{Oven D227}}$ = 0.259 lb/hr + 0.03 lb/hr = 0.289 lb/hr, or 6.94 lb/day
R2 = $R2_{\text{Extruder D226}}$ + $R2_{\text{Oven D227}}$ = 0.08418 lb/hr + 0.03 lb/hr = 0.114 lb/hr, or 2.736 lb/day

VOC emissions:
R1=R2 = $(R1=R2)_{\text{Extruder D226}}$ + $(R1=R2)_{\text{Oven D227}}$= 0.1906 lb/hr + 0.028 lb/hr = 0.2186 lb/hr, or 5.25 lb/day

A/N 347376		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)	30day NSR (lbs/day)
VOC	**R1=R2**	0.22	5.25	1,909.69	5.25	5
SOx	**R1=R2**	0.00	0.05	17.47	0.05	0
PM10	**R1**	0.29	6.94	2,524.70	6.94	7
	R2	0.11	2.74	995.90	2.74	3
CO	**R1=R2**	0.14	3.36	1,223.04	3.36	3

APPL. NO. 347392 –ELECTROSTATIC PRECIPITATOR (C244)

Data

# of ducts:	108
Plate spacing:	0.36 inches
Charge Surface Area:	34,560 in^2
Voltage:	460 Volts
Exhaust Blower Capacity:	2600 cfm

The drift velocity is assumed to be: w = 0.25 ft/sec

Calculation

The plate area of each duct: A = (34,560 in^2) / 108 = 320 in^2 = 2.22 ft^2
The flow rate per duct: Q = (2,600 ft^3/min) / 108 /60 = 0.401 ft^3/sec

Control efficiency: $$\eta = 1 - e^{-w\frac{A_p}{Q}}$$

$$\eta = 1 - e^{-0.25\frac{2.22}{0.401}}$$

$\eta = 0.75$

RULE 404 CALCULATIONS:

PM concentration = (0.08418 lb/hr) (7,000 grains/lb) / (60 min/hr) / (2,600 ft^3/min) = 0.00378 grains/ft^3

APPL. NO. 347396 – OPS AND HIPS RECLAIM GRINDING, CONVEYING, AND STORAGE

Operation: 24 hrs/day, 7 days/wk, and 52 wks/yr
Throughput (Max.): 2,000 lb/hr (same as the throughput of reclaim extruder D238)

PM10 Emissions from Grinders (D236) and Storage Bin (D237)

Assumption:
PM Emission Factor: 1.00 lbs PM/1,000 lb Ground Plastic (default)
PM10 = 50% PM
Dust Collector (C279) Control efficiency = 99%

PM10 Emissions
R1 = (2,000 lb/hr) (1.00 lbs PM/1,000 lb) (50%) = 1.00 lbs/hr, or 24.00 lb/day
R2 = (1.00 lbs/hr) (1 – 99%) = 0.01 lb/hr, or 0.24 lb/day

Emission Summary

A/N: 347396		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	1.00	24.00	8,736	24.00	24
	R2	0.01	0.24	87	0.24	0

APPL. NO. 393801 – EXISTING DUST COLLECTOR (C279)

Baghouse Air to Cloth ratio:

Baghouse Type: Pulse Jet
Baghhouse exhaust blower flowrate = 10,500 Scfm
Total filter area = 2,880 ft^2 (Tier 2 baghouse)

Baghouse Air to Cloth (A/C) ratio = (10,500 cfm) / (2,880 ft^2) = 3.65 fpm

A baghouse with pulse jets can operate at A/C ratio up to 12 fpm.

RULE 404 CALCULATIONS:

PM concentration = (0.012 lb/hr) (7000 grains/lb) / (60 min/hr) / (10,500 ft^3/min) = 0.000133 grains/ft^3

APPL. NO. 347399 – POLYSTYRENE RECLAIM EXTRUSION LINE (D238, D239, D219)

PM10 and VOC Emissions from Polystyrene Reclaim Extruder (D238)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr
Extruder (D238) process rate = 2,000 lb/hr

Emission Factors

Product/Process	Pollutants	Emission Factor (lb/ton plastic)
Plastic Extruder[1]	PM	0.0958
	VOC	0.0706

Note:

1. Emission Factors were obtained from an Emission Calculation Fact Sheet from Michigan Department of Environmental Quality (FACT SHEET #9847, Rev 11/05).

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
ESP (C278) collection efficiency = 75%

PM10 emissions:
R1 = (2000 lb/hr) (0.0958 lb/ton) / (2,000 lb/ton) = 0.0958 lb/hr, or 2.30 lb/day
R2 = (0.0958 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.0311 lb/hr, or 0.747 lb/day

VOC emissions:
R1=R2 = (2000 lb/hr) (0.0706 lb/ton) / (2,000 lb/ton) = 0.0706 lb/hr, or 1.69 lb/day
Emission Summary:

A/N: 347399		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	0.10	2.30	837	2.30	2
	R2	0.03	0.75	272	0.75	1
VOC	R1 = R2	0.07	1.69	617	1.69	2

APPL. NO. 448881 – EXISTING ELECTROSTATIC PRECIPITATOR (C278)

Data

# of ducts:	108
Plate spacing:	0.36 inches
Charge Surface Area:	34,560 in^2
Voltage:	460 Volts
Exhaust Blower Capacity:	2600 cfm

The drift velocity is assumed to be: w = 0.25 ft/sec

Calculation

The plate area of each duct: $A = (34{,}560\ in^2) / 108 = 320\ in^2 = 2.22\ ft^2$
The flow rate per duct: $Q = (2{,}600\ ft^3/min) / 108 / 60 = 0.401\ ft^3/sec$

Control efficiency:

$$\eta = 1 - e^{-w\frac{A_p}{Q}}$$

$$\eta = 1 - e^{-0.25\frac{2.22}{0.401}}$$

$\eta = 0.75$

RULE 404 CALCULATIONS:

PM concentration = (0.0311 lb/hr) (7,000 grains/lb) / (60 min/hr) / (2,600 ft^3/min) = 0.0014 grains/ft^3

HIPS Manufacturing Operation

Seven applications are under this operation, and they are indicated as follows:

Equipment Description	Process No.	System No.	Device ID	Appl. No.	Evaluation Type
HIPS Extrusion Line #1	2	1,3	D177, D178, D280, D281, D282	234905	N/A
HIPS Extrusion Line #2	2	2,3	D193, D194, D280, D281, D282	316737	N/A
ESP	2	1	C179	234907	N/A
ESP	2	2	C195	316736	N/A
ESP	2	3	C283	448883	PO no PC
ESP	2	3	C284	448884	PO no PC
ESP	2	3	C285	448885	PO no PC

This evaluation report only involves the evaluations of A/N 448883, A/N 448884 and A/N 448885 listed above. However, VOC emissions will be summarized for the facility-wide emission cap.

PM10 and VOC Emissions from the extruder (D178)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr

Condition No. C1.1 limits the extruder D178 to process 12 tons/day or less.

(12 tons/day) (2,000 lb/ton) / (24 hrs/day) = 1,000 lb/hr

Emission Factors

Product/Process	Pollutants	Emission Factor (lb/ton plastic)
Plastic Extruder[1]	PM	0.0958
	VOC	0.0706

Note:

1. Emission Factors were obtained from an Emission Calculation Fact Sheet from Michigan Department of Environmental Quality (FACT SHEET #9847, Rev 11/05).

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
ESP (C179) collection efficiency = 75%

PM10 emissions from D178:
R1 = (1,000 lb/hr) (0.0958 lb/ton) / (2,000 lb/ton) = 0.0479 lb/hr, or 1.15lb/day
R2 = (0.0479 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.0156 lb/hr, or 0.374 lb/day

VOC emissions from D178:
R1=R2 = (1,000 lb/hr) (0.0706 lb/ton) / (2,000 lb/ton) = 0.0353 lb/hr, or 0.847 lb/day

PM10 and VOC Emissions from the extruder (D194)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr

Condition No. C1.2 limits the extruder D194 to process 24 tons/day or less.

(24 tons/day) (2,000 lb/ton) / (24 hrs/day) = 2,000 lb/hr

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
ESP (C195) collection efficiency = 75%

PM10 emissions from D194:
R1 = (2,000 lb/hr) (0.0958 lb/ton) / (2,000 lb/ton) = 0.0958 lb/hr, or 2.30 lb/day
R2 = (0.0958 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.0311 lb/hr, or 0.747 lb/day

VOC emissions from D194:
R1=R2 = (2,000 lb/hr) (0.0706 lb/ton) / (2,000 lb/ton) = 0.0706 lb/hr, or 1.69 lb/day

PM10 Emissions from each of the three thermoformers (D279, D281, D283)

Operation Schedule:
24 hrs/day (max.), 7 days/wk, 52 wks/yr

Process weight = ($Rate_{D178}$ + $Rate_{D194}$) / 3
= (1,000 lb/hr + 2,000 lb/hr) / 3 = 1,000 lb/hr

Emission Factors

There is no emission information for thermoformers available. The extruded sheet goes through the thermoforming ovens, where it does not melt. Since the polystyrene materials already have molten at least twice (once in the pelletizing extruder in manufacturer and once in the sheet extruder), the VOC emissions as styrene are negligible at this point. For PM10 emission factor, I will assume it is 50% of the extruder PM10 emissions.

Assumptions:
PM10 = PM
Force draft hood collection efficiency = 90%
Each ESP (C283, C284 or C285) collection efficiency = 75%

PM10 emissions from each thermoformer (D280, D281 or D282):
R1 = (1,000 lb/hr) (0.0958 lb/ton) (50%) / (2,000 lb/ton) = 0.024 lb/hr, or 0.57 lb/day
R2 = (0.024 lb/hr) [(1-90%) + (90%)(1-75%)] = 0.0078 lb/hr, or 0.187 lb/day

Emission Summary:

PM10 emissions for A/N: 234905:
R1 = (0.0479 lb/hr) + (0.024 lb/hr) = 0.072 lb/hr, or 1.72 lb/day
R2 = (0.0156 lb/hr) + (0.0078 lb/hr) = 0.0234 lb/hr, or 0.56 lb/day

A/N: 234905		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	0.072	1.73	629	1.73	2
	R2	0.023	0.56	204	0.56	1
VOC	R1=R2	0.035	0.85	308	0.85	1

PM10 emissions for A/N: 316737:
R1 = (0.0958 lb/hr) + (0.024 lb/hr) × 2 = 0.1437 lb/hr, or 3.45 lb/day
R2 = (0.0311 lb/hr) + (0.0078 lb/hr) × 2 = 0.0467 lb/hr, or 1.12 lb/day

A/N: 316737		Lb/hr	Lb/day	Lb/year	30 day ave.	30 day NSR
PM10	R1	0.144	3.45	1,255	3.45	3
	R2	0.047	1.12	408	1.12	1
VOC	R1=R2	0.071	1.69	617	1.69	2

APPL. NOS. 448883, -84 & -85 EXISTING ESP'S (C283, C284 & C285)

Data

# of ducts:	108
Plate spacing:	0.36 inches
Charge Surface Area:	34,560 in^2
Voltage:	460 Volts
Exhaust Blower Capacity:	2600 cfm

The drift velocity is assumed to be: w = 0.25 ft/sec

Calculation

The plate area of each duct: A = (34,560 in^2) / 108 = 320 in^2 = 2.22 ft^2

The flow rate per duct: Q = (2,600 ft^3/min) / 108 /60 = 0.401 ft^3/sec

Control efficiency:

$$\eta = 1 - e^{-w\frac{A_p}{Q}}$$

$$\eta = 1 - e^{-0.25\frac{2.22}{0.401}}$$

$\eta = 0.75$

RULE 404 CALCULATIONS:

PM concentration = (0.0078 lb/hr) (7,000 grains/lb) / (60 min/hr) / (2,600 ft^3/min) = 0.00035 grains/ft^3

Emergency Internal Combustion Engine

APPL. NO. 347491 AND SUBSEQUENT APPLICATION 448879 – EMERGENCY ICE (D253)

Operating Schedule (Max.): 50 hr/yr, (or 1 hr/day, 1 day/wk, 50 wk/yr)
I.C. ENGINE rated at: 100 BHP, Diesel Fueled

The following emission factors are obtained from the District Equipment Certification / Registration Program under A/N: 320202.

	VOC	NOX	SOX	CO	PM
g/BHP-hr	0.20	8.51	0.184	0.23	0.06

The formula to determine emission rates for VOC, NO_x, SO_x, CO and PM-10, is indicated as follows:

$$EmissionRate, {}^{lb}/_{hr} = \frac{\left(EmissionFactor, {}^{grams}/_{bhp \cdot hr} \right)\left(EngineRating, bhp \right)}{453.6 grams / lb}$$

The calculated emission results are indicated below:

A/N: 448879		Hourly (lbs/hr)	Daily (lbs/day)	Annually (lbs/yr)	30 day ave. (lbs/day)
R1=R2	**VOC**	0.044	0.04	2.2	0.006
R1=R2	**NO_X**	1.88	1.88	94	0.261
R1=R2	**SO_X**	0.041	0.04	2.0	0.006
R1=R2	**CO**	0.05	0.05	3	0.007
R1=R2	**PM-10**	0.013	0.01	0.7	0.002

Daily (lbs/day) = (Hourly, lbs/hr) (1 hr/day)
Annually (lbs/yr) = (Hourly, lbs/hr) (50 hr/yr)
30-day average = (Annually, lbs/yr) / (360 day/yr)

Facility-wide VOC Emission Summary

The facility has a VOC emission cap of 3281 lb/day as required by condition no. F2.1; thus it is important to summarize as following:

Equipment Description		Device ID	Appl. No.	R1 (lbs/hr)	R2 (lbs/hr)
DI Foam Manufacturing Operation					
DI foam extrusion, storage and thermo-forming	Line 1	D207, D275, D204, D205	347409	35.52	12.60
	Line 2	D206, D204, D205	347407	35.50	12.58
	Line 3	D203, D204, D205	347406	35.50	12.58
	Line 4	D211, D204, D205	347415	35.50	12.58
DI foam reclaim process – grinding, fluff storage, extrusion/re-pelletizing and pellet storage	Line 1	D214, D215, D218, D213, D216, D217, D219	347384	0.00	0.00
	Line 2	D214, D215, D218, D220, D221, D217, D219	347385	0.00	0.00
RTO Combustion Emissions		C224	347394	0.05	0.05
Pentane Storage Tanks		D251	347390	0.53	0.01
		D252	347419	0.53	0.01

EPS Foam Cup Manufacturing Operation					
Polystyrene Foam Cup Manufacturing	Line 1	Process 1, Systems 1 & 2	316738	165.31	23.12
	Line 2	Process 1, Systems 2 & 3	280815	165.31	23.12
Printing Process		Exempt Equipment, E199*	N/A	0.32	0.32
Boiler/afterburner (23.104 MMBtu/hr)		D180	316735	0.06	0.06
Boiler/afterburner (23.104 MMBtu/hr)		D181	316734	0.06	0.06
Boiler/afterburner (23.104 MMBtu/hr)		D182	362217	0.06	0.06
Boiler No. 4 (29 MMBtu/hr),		D254	389113	0.15	0.15
OPS Manufacturing Operation					
OPS Processing Line 1		D226, D227, D229	347376	0.22	0.22
OPS and HIPS Reclaim Grinding, Conveying, and Storage		D236, D237	347396	0.00	0.00
Polystyrene Reclaim Extrusion Line		D219, D238	347399	0.07	0.07
HIPS Manufacturing Operation					
HIPS Extrusion Line #1		D177, D178, D280, D281, D282	234905	0.04	0.04
HIPS Extrusion Line #2		D193, D194, D280, D281, D282	316737	0.07	0.07
Emergency ICE					
Emergency ICE		D253	448879	0.04	0.04
		Total (lb/hr):		**474.84**	**97.74**
		Total (lb/day):		**11,396.3**	**2,345.64**

* Based on the Engineer Evaluation for A/N: 406665

VOC emissions 2,345.64 lb/day is within the facility limit of 3,281 lb/day!

RULES AND REGULATIONS EVALUATION

Rule 212: **Standards for Approving Permits** – The facility is not located within 1,000 feet of a K-12 school, and there are no emission potential increases with the 16 P/O to P/C applications, six applications for five existing ESP's and one existing baghouse, and one change-of-condition application for the emergency ICE. A Public Notice is not required.

Rule 401: **Visible Emissions** – Compliance is expected from well maintained and properly operated equipment.

Rule 402: **Public Nuisance** – With proper operation and maintenance, the equipment are not likely to create a public nuisance.

Rule 404: **Particulate Matter Concentration**

APPLICATION NO. 393798 – EXISTING ESP (C277)
Table 404(a) allows a maximum concentration of PM 0.131 grains/ft^3 for a discharging rate of 2,600 CFM. The PM concentration in the exhaust air is estimated at 0.000419 grains/ft^3. Therefore, compliance is expected.

APPLICATION NO. 347486 – BAGHOUSE (C250)
This baghouse does not have an exhaust stack because it is vented to the RTO. Therefore, compliance with this rule is expected.

APPLICATION NO. 347392 – ESP (C244)
Table 404(a) allows a maximum concentration of PM 0.131 grains/ft^3 for a discharging rate of 2,600 CFM. The PM concentration in the exhaust air is estimated at 0.00378 grains/ft^3. Therefore, compliance is expected.

APPLICATION NO. 393801 – EXISTING BAGHOUSE (C279)
Table 404(a) allows a maximum concentration of PM 0.078 grains/ft^3 for a discharging rate of 10,500 CFM. The PM concentration in the exhaust air is estimated at 0.000133 grains/ft^3. Therefore, compliance is expected.

APPLICATION NO. 448881 – EXISTING ESP (C278)
Table 404(a) allows a maximum concentration of PM 0.131 grains/ft^3 for a discharging rate of 2,600 CFM. The PM concentration in the exhaust air is estimated at 0.0014 grains/ft^3. Therefore, compliance is expected.

APPLICATION NO. 448883, -84 & -85 – EXISTING ESP'S (C283, C284 & C285)
Table 404(a) allows a maximum concentration of PM 0.131 grains/ft^3 for a discharging rate of 2,600 CFM. The PM concentration in the exhaust air is estimated at 0.00035 grains/ft^3. Therefore, compliance is expected.

Rule 405: Solid Particulate Matter – Weight

APPLICATION NO. 393801 – EXISTING BAGHOUSE (C279)
Table 405(a) allows a maximum 4.42 lbs/hr for a process weight of 2,400 lbs/hr. The calculated emission rate of 0.006 lbs/hr for this equipment is within Rule 405 limits. Compliance is expected.

Rule 407: Liquid and Gaseous Air Contaminants: The rule allows a CO concentration of 2,000ppm in the gas discharge to the atmosphere.

APPLICATION NO. 389113 – BOILER NO. 4 (D254)

A source test conducted on May 28, 2008 indicated that this boiler was operating at 43.51 ppmv @ 3% O_2. The May 28, 2008 source test results were approved by the District M&STE on October 2, 2008 (Ref: 08123). Compliance is achieved.

Rule 1146: Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters

Dart Container is operating under the RECLAIM program, the NOx emission level requirement of this rule is not applicable. All NOx emission levels will be monitored under the RECLAIM provisions.

APPLICATION NO. 389113 – BOILER NO. 4 (D254)

This boiler will however be subject to the requirements of the CO emission limit of this rule. The CO limit for this source is 400 ppm. A source test conducted on May 28, 2008 indicated that this boiler was operating at 43.51 ppmv @ 3% O_2. The May 28, 2008 source test results were approved by the District M&STE on October 2, 2008 (Ref: 08123). Compliance is achieved.

Rule 1155: Particulate Matter (PM) Control Devices

ELECTROSTATIC PRECIPITATORS (C244, C277, C278,, C283, C284, C285)

Section (d)(1) requires all PM air pollution control devices not to have any visible emissions. Compliance is expected from well maintained and properly operated equipment. In addition, condition no. A63.1 is added to ensure compliance of this requirement.

Section (d)(3) requires this equipment to be operated and maintained in accordance with the manufacturer's operation and maintenance manual or other similar written materials. Compliance is expected.

Sections (e) and (f) - Monitoring and Record Keeping Requirements. The operator shall follow all monitoring and record keeping requirements of this rule. Condition no. H23.4 is added to ensure compliance of these requirements.

APPL. NO. 347486 – BAGHOUSE (C250)

This baghouse has a filter surface area of 8,128 ft^2; thus, it is a Tier 3 baghouse. This baghouse does not have an exhaust stack because it is vented to the RTO (C224).

Section (d)(1) requires all PM air pollution control devices not to have any visible emissions. Baghouse C250 is exempt from this requirement per section (g)(8).

Section (d)(2) requires an outlet PM concentration of less than or equal to 0.01 grains per dry standard cubic foot (gr/dscf) for a Tier 3 baghouse. Baghouse C250 is exempt from this requirement per section (g)(8).

Section (d)(3) requires this equipment to be operated and maintained in accordance with the manufacturer's operation and maintenance manual or other similar written materials. Compliance is expected.

Section (d)(9) requires the operator properly discharge the collected PM. Condition no. E448.1 is added to ensure compliance of this requirement.

Section (e)(1) Visible emission reading requirement. Baghouse C250 is exempt from this requirement per section (g)(8).

Section (e)(3) BLDS requirement. Baghouse C250 is exempt from this requirement per section (g)(8).

Sections (e) and (f) - Monitoring and Record Keeping Requirements. The operator shall follow all monitoring and record keeping requirements of this rule. Condition no. H23.4 is added to ensure compliance of these requirements.

APPL. NO. 393801 – EXISTING BAGHOUSE (C279)

This baghouse has a filter surface area of 2,880 ft^2; thus, it is a Tier 2 baghouse.

Section (d)(1) requires all PM air pollution control devices not to have any visible emissions. Compliance is expected from well maintained and properly operated

equipment. In addition, condition no. A63.1 is added to ensure compliance of this requirement.

Section (d)(3) requires this equipment to be operated and maintained in accordance with the manufacturer's operation and maintenance manual or other similar written materials. Compliance is expected.

Section (d)(9) requires the operator properly discharge the collected PM. Condition no. E448.2 is added to ensure compliance of this requirement.

Sections (e) and (f) - Monitoring and Record Keeping Requirements. The operator shall follow all monitoring and record keeping requirements of this rule. Condition no. H23.4 is added to ensure compliance of these requirements.

Rule 1175: Control of Emissions from the Manufacture of Polymeric Cellular (Foam) Products

DI FOAM MANUFACTURING OPERATION

Dart performed the source test on April 10, 2002 as required by Condition no. 28-3. The source test results are summarized in a report prepared by Harding ESE, Inc. and dated June 12, 2002. The District M&STE evaluated this report and did not provide a conclusion in their memorandum dated July 31, 2002 (ref. 01326). Instead, the District M&STE recommended "the requestor will have to make his own determinations regarding compliance status with AQMD rules".

During a meeting with Dart on May 21, 2009, it was decided that additional data collection is necessary to demonstrate compliance with Rule 1175. Thus, Dart performed two additional tests on August 21, 2009 and August 26, 2009 to collect the required data. The additional test results obtained during August are combined with the results in 2002, and these results have demonstrated that the DI Foam lines are in compliance with Rule 1175 (see emission calculation section).

EPS FOAM MANUFACTURING OPERATION

Dart had a source test performed on April 9, 2008 as required by Condition no. 28-4 (Source Test once every five years). The source test results are summarized in a report dated June 5, 2008. The report was approved by the District M&STE on February 11, 2009 (Ref: 06060). The test results have demonstrated the EPS Foam manufacturing operation is in compliance with Rule 1175.

REG XIII: New Source Review - There are no emission potential increases with the 16 P/O to P/C applications, six applications for five existing ESP's and one existing baghouse, and one change-of-condition application for the emergency ICE. No emission offset is required for these applications.

APPLICATION NO. 389113 – BOILER NO. 4 (D254)

This boiler is subject to a BACT CO emission limit of 50ppmv @ 3% O_2. A source test conducted on May 28, 2008 indicated that this boiler was operating at 43.51 ppmv @ 3%

O_2. The May 28, 2008 source test results were approved by the District M&STE on October 2, 2008 (Ref: 08123). Compliance is achieved.

Rule 1470: Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

APPL. NO. 448879 – EMERGENCY DIESEL ICE (D253)

1470 (c)(1) Fuel and Fuel Additive Requirements – the fuel oil purchased is required to have a sulfur content of less than 15 ppm. Compliance is expected.

1470 (c)(3)(A)- This I.C. engine will be operated only during emergency conditions.

1470 (c)(3)(B) - This I.C. engine is not located within 500 feet of a school. There will be no prohibition of operation for testing and maintenance during normal school hours.

1470 (c)(3)(C)(ii)(I) – The district Equipment Certification / Registration Program under A/N: 320202 indicated the PM emissions from this model of engine are 0.06 g/bhp-hr, which is less than 0.15 g/bhp-hr. **Thus, the maximum number of operating hours will be limited to 50 hours per year for testing and maintenance.**

1470 (c)(3)(C)(iv) – This rule does not apply based on that no emission control strategy associate with this I.C. engine was indicated.

Rule 2005: New Source Review for RECLAIM

APPLICATION NO. 389113 – BOILER NO. 4 (D254)

Dart performed the source tests on this boiler on January 15, 2002 and on May 20, 2008. The source test in 2002 was performed as required by Condition no. 28-5. The source test in 2008 was performed as required by the RECLAIM program. Both tests have demonstrated the boiler is operating in compliance with the NOX and CO emission limits (NOX: 9ppm, CO: 50ppm). The source test report for the 2002 test was approved by the District M&STE on April 20, 2004 (Ref: PR 01305). The source test report for the 2008 test was approved by the District M&STE on October 2, 2008 (Ref: 08123).

Reg XXX: Title V Permit

Dart Container Corp of California (Facility ID: 3721) has an active Title V permit. Based on the above evaluation, no PTE increase is expected for the 16 P/O to P/C applications, six applications for five existing ESP's and one existing baghouse, and one change-of-condition application for the emergency ICE. Therefore, application no. 450086 is considered Minor Permit Revision of Title V Facility Permit and it is subject to a 45-day EPA review prior to final revision of the Title V Facility Permit (Application No. 450086).

CONCLUSION AND RECOMMENDATIONS

Based on this evaluation, it is expected that the subject equipment will be operated in compliance with all applicable District Rules and Regulations. The operating permits are recommended to be issued.